

Lyme Disease

facts



U.S. Department of Labor
Occupational Safety and Health Administration

OSHA has published a hazard information bulletin (HIB) to provide guidance to people who reside in high or moderate risk areas in the United States and who are exposed to ticks during the course of their work and thus at risk of contracting Lyme disease.* Examples of outdoor work which may be associated with increased risk of exposure to infected ticks include: construction work, landscaping, forestry, brush clearing, land surveying, farming, railroad work, oil field work, utility line work, and park/wildlife management.

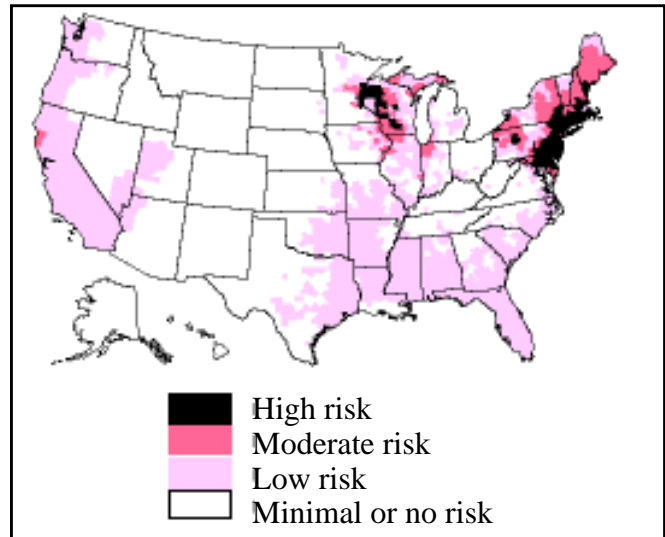
The Centers for Disease Control and Prevention (CDC) has developed a national Lyme disease risk map¹ in which CDC identified areas of the U.S. as minimal or no risk, low risk, moderate risk, or high risk for predicted Lyme disease. Areas at high or moderate risk include many counties in the Northeast U.S., some areas around the Great Lakes, and an area in Northern California. It is important that state and local health department authorities be consulted to determine risk in any given area, since risk can vary even within a county, and perhaps from year to year.

Lyme disease is caused by *Borrelia burgdorferi*, a bacterium carried in the gut of certain ticks. When these infected ticks attach to the human body (often in armpits, groin, scalp, or other hairy, hidden body areas), they slowly feed, and within 36-48 hours they may transmit *B. burgdorferi* to their human host. Young ticks are especially abundant and are seeking hosts in late spring and early summer, although adult ticks can transmit infection as well.

* See OSHA HIB 00-04 online at www.osha.gov or by calling your nearest OSHA office listed in the blue pages of your telephone directory.

¹“Recommendations for the Use of Lyme Disease Vaccine; Recommendations of the Advisory Committee on Immunization Practices (ACIP).” *MMWR* 6/4/1999, 48 (RR-7). www.cdc.gov.

National Lyme disease risk map with four categories of risk



Note: This map demonstrates an approximate distribution of predicted Lyme disease risk in the United States. The true relative risk in any given county compared with other counties might differ from that shown here and might change from year to year.¹

Although a majority of people with Lyme disease develop a “bulls-eye” rash, 20-40% of persons who have the disease do not have a rash. Other signs and symptoms may be non-specific and similar to flu symptoms (e.g., fever, lymph node swelling, neck stiffness, generalized fatigue, headaches, migrating joint aches, or muscle aches). Diagnosis is based on a history of known exposure and development of clinical signs and symptoms, with blood testing providing valuable supportive information. Most cases of Lyme disease can be successfully treated with antibiotics. It is very important that Lyme disease be diagnosed and treated with antibiotics, since untreated Lyme disease may result in symptoms (i.e., arthritis, muscle pain, heart disease, brain and nerve disorders) that are severe, chronic, and disabling.

This fact sheet is informational in content and advisory in nature.
It is not a new standard or regulation and creates no legal obligation.

Prevention of Lyme Disease

First line of defense is decreasing the probability of tick bites.¹ Ticks can be vectors of other infections, in addition to Lyme disease.

- Avoidance of tick habitat (brushy, overgrown grassy, and woody areas) particularly in spring and early summer when young ticks feed.
- Removal of leaves, tall grass, and brush from areas around work areas or residential areas to decrease tick as well as host (deer and rodent) habitat.
- Application of tick-toxic chemicals to surrounding work or residential areas in accordance with federal, state, and local regulations and community standards.

Personal Protection

- Wearing light-colored clothing (to more easily see ticks).
- Wearing long-sleeved shirts, tucking pant legs into socks or boots (delays ticks from reaching skin so they can be more easily found before attaching).
- Wearing high boots or closed shoes covering entire foot.
- Wearing a hat.
- Using appropriate insect repellants on non-facial skin and permethrin on clothes (kills ticks) in accordance with Environmental Protection Agency guidelines.
- Showering and washing/drying clothes at high temperature after outdoor exposure.
- Doing a careful body check for ticks, prompt removal with tweezers and skin cleansing with antiseptic.

Vaccine

LYMErix is approved by FDA for use in individuals 15-70 years old. This vaccine may kill *B. burgdorferi* in the tick gut by stimulating human antibody production. Three injections are given, an initial injection, one a month later, and a third one year after the initial injection. Protection after the 3rd dose is 76% for definite Lyme disease, 100% for asymptomatic infection. Lyme disease vaccine should be considered for individuals in certain situations, (e.g. persons who reside in areas of high or moderate risk, and who engage in activities which result in frequent or prolonged exposures to tick habitats). It is not recommended for individuals with certain medical conditions. More information regarding the vaccine and its recommended use is contained in OSHA's Lyme disease HIB and on the CDC web site (www.cdc.gov).

Workers at risk should be advised of the signs and symptoms of Lyme disease, as well as the primary and secondary preventive measures for this disease. Those who are at increased risk for Lyme disease should obtain medical advice regarding the applicability of the Lyme disease vaccine; those who have symptoms of suspected tick-borne infection should seek medical attention early. More detailed information regarding various aspects of Lyme disease prevention can be found on the CDC web site (www.cdc.gov).

The Directorate of Technical Support issues Hazard Information Bulletins (HIBs) in accordance with OSHA Instruction CPL 2.65 to provide relevant information regarding unrecognized or misunderstood health and safety hazards, as well as potential hazards associated with particular materials, devices, techniques, and engineering controls. An HIB is not a new standard or regulation, and it creates no legal obligations. It is advisory in nature, informational in content, and is intended for use by employers seeking to provide a safe and healthful workplace. The *Occupational Safety and Health Act* requires employers to comply with hazard-specific safety and health standards. In addition, employers must provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm under Section 5(a)(1), the General Duty Clause of the Act. Employers can be cited for violating the General Duty Clause if there is a recognized hazard and they do not take steps to prevent or abate the hazard. However, failure to implement HIB recommendations is not, in itself, a violation of the General Duty Clause. Citations can only be based on standards, regulations, and the General Duty Clause.