

NIOSH Safety and Health Topic: Lyme Disease

Overview

Lyme disease is the most commonly reported tick-borne disease in the United States. In 2005, more than 23,000 cases of Lyme disease were reported to the Centers for Disease Control and Prevention (CDC). Lyme disease is passed to humans by the bite of black-legged ticks (also known as deer ticks in the eastern United States) and western black-legged ticks infected with the bacterium *Borrelia burgdorferi*. The Lyme disease bacterium normally lives in mice, squirrels, and other small mammals.

Outdoor workers are at risk of Lyme disease if they work at sites with infected ticks. U.S. workers in the northeastern and north-central States are at highest risk of exposure to infected ticks. Ticks may also transmit other tick-borne diseases to workers in these and other regions of the country. Worksites with woods, bushes, high grass, or leaf litter are likely to have more ticks. Outdoor workers should be extra careful to protect themselves in the late spring and summer when young ticks are most active.

Occupations at Risk

All outdoor workers should check with their supervisor if they have questions about possible exposure to Lyme disease. Workers at risk of Lyme disease include, but are not limited to, those working in the following:

- Construction
- Landscaping
- Forestry
- Brush clearing
- Land surveying
- Farming
- Railroad work
- Oil field work
- Utility line work
- Park or wildlife management
- Other outdoor work

Recommendations for Employers

Employers should protect their workers from Lyme disease by taking these steps:

Provide training for workers that includes information about the following:

How Lyme disease is spread

The risks of exposure and infection

How workers can protect themselves from ticks

The importance of the timely reporting of workplace illnesses and injuries

Recommend that workers wear light-colored long-sleeved shirts, long pants, socks, and hat when possible. If worker uniforms are provided, provide long-sleeved shirts and long pants as options.

Provide workers with repellents (containing >20% DEET) to use on their skin and clothing for protection against tick bites.

Provide workers with insecticides (such as permethrin) to provide greater protection. Permethrin kills ticks and can be used on clothing (but not skin).

When possible, have workers avoid working at sites with woods, bushes, tall grass, and leaf litter.

When avoiding these sites is not possible, personal protective measures are of particular importance. If work in these higher-risk sites must occur, take the following steps to reduce tick populations:

Remove leaf litter.

Remove, mow, or cut back tall grass and brush.

Control rodent and small mammal populations.

Discourage deer activity.

Recommendations for Workers

Wear a hat and light-colored clothing, including long-sleeved shirts and long pants tucked into boots or socks.

Use insect repellents that provide protection for the amount of time you will be outdoors:

Follow repellent label directions for use.

Use repellents containing DEET on your skin or clothing.

Reapply repellents as needed.

Use insecticides for greater protection. Insecticides, such as permethrin, can be used on clothing but not skin.

Check your skin and clothes for ticks every day. The immature forms of these ticks are very small and may be hard to see.

Remember to check your hair, underarms, and groin for ticks.

Immediately remove ticks from your body using fine-tipped tweezers.

Grasp the tick firmly and as close to your skin as possible.

Pull the tick's body away from your skin with a steady motion.

Clean the area with soap and water.

Removing infected ticks within 24 hours reduces your risk of being infected with the Lyme disease bacterium. Wash and dry work clothes in a hot dryer to kill any ticks present.

Symptoms of Lyme Disease:

An expanding circular rash called erythema migrans (may look like a red bulls-eye at the site of the tick bite)

Fever

Joint and muscle pains

Headache

Chills

Fatigue

Swollen lymph nodes

Any worker who has symptoms consistent with Lyme disease should contact his or her health care provider.

Diagnosis and Treatment of Lyme Disease

Lyme disease is diagnosed based on symptoms and the possibility that the worker has been exposed to infected ticks.

Most cases can be successfully treated with antibiotics, especially if treatment is started early. However, some workers may have symptoms such as arthritis, muscle and joint pain, or fatigue for an extended period of time.

Prevention and early diagnosis of Lyme disease are important in pregnant workers. Lyme disease acquired during pregnancy may lead to infection of the placenta and possible stillbirth. However, no negative effects on the fetus have been found when the mother receives appropriate antibiotic treatment. There are no reports of Lyme disease transmission from breast milk.

SOURCE: <http://www.cdc.gov/niosh/topics/lyme/>