

## -Fact Sheet- Lyme Disease

### Lyme Disease: A risk to those who work or spend time outdoors

If you work or spend time in wooded or grassy areas, you should be aware of the dangers of Lyme disease. Lyme disease is an infection caused by a bacterium, *Borrelia burgdorferi*, that is transmitted through bites from infected eastern black-legged ticks (also known as deer ticks) as well as western black-legged ticks.

Lyme disease is not spread from person to person.

Cases of Lyme disease are most common in large areas of the northeast as well as in the Great Lake States, as illustrated in the diagram.



The debilitating effects of Lyme disease can include severe headaches, arthritis, cardiac abnormalities and central nervous system involvement leading to neurological disorders.

Lyme disease can be prevented by reducing the chances of tick bites; prompt, proper removal of embedded ticks; and prompt medical treatment if symptoms are detected. If detected early, Lyme disease can usually be treated very successfully.

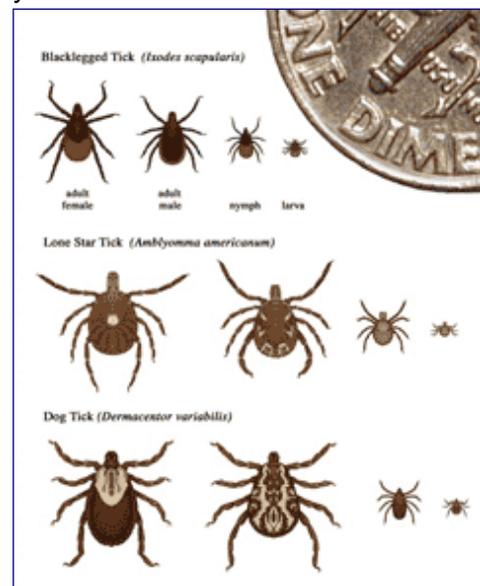
### Tick Habitat

Most ticks favor a moist, shaded environment, especially areas with leaf litter and low-lying vegetation in wooded, brushy or overgrown grassy habitat. Be alert for ticks when you are in these areas.

### Tick Life Cycle and Disease Epidemiology

The official common name of the deer tick is the Eastern black-legged tick. You may also hear it called the bear tick. These are all the same species with the scientific name, *Ixodes scapularis*. The Western black-legged tick, *Ixodes Pacificus*, is found in the Pacific US and British Columbia. It is physically similar to the deer tick. The deer tick is much smaller than the wood (or dog) tick – see illustration to the right.

The majority of Lyme disease cases result from the bites of infected nymphs which feed in spring and early summer.



Deer ticks feed on blood by inserting their mouth parts into the skin. They are slow feeders and will feed for three to five days. If the deer tick is infected, it must be attached for 24-48 hours before it transmits Lyme disease.

## Symptoms of Lyme Disease

General symptoms vary greatly depending on the individual, location of the bite, etc., and different symptoms may occur at different times.



According to the Centers for Disease Control and Prevention, the first sign of infection is usually a circular, spreading rash called *erythema migrans* or EM. This rash occurs in approximately 60-80 percent of infected persons and begins at the site of a tick bite after a delay of three to 30 days. A distinctive feature of the rash is that it gradually expands over a period of several days, reaching up to 12 inches (30 cm) across. The center of the rash may clear as it enlarges, resulting in a bull's-eye appearance. It may be warm but is not usually painful. Some patients develop additional EM lesions in other areas of the body after several days.

Other **Early Symptoms** that usually appear within 30 days of infection are:

- swelling of the lymph nodes (glands) near the tick bite
- headache
- joint pain
- chills, fever and fatigue

**Later Stage Symptoms** that may appear four weeks to three months after the tick bite are:

- two or more areas of rash not at the site of the bite
- severe headache
- severe fatigue
- enlarged lymph nodes
- joint/neck stiffness
- facial paralysis
- tingling or numbness in the extremities
- irregular heart rhythm
- fever
- arthritis, especially in the arms and legs
- memory lapses (rare in children and teens)

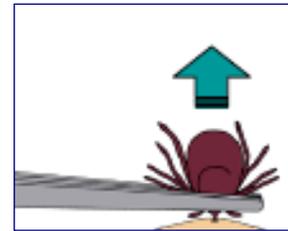
## Prevention and Control

For working or spending time outdoors, make these precautions part of your routine:

- Scan clothes and any exposed skin frequently for ticks
- Use insect repellent containing DEET on exposed skin other than the face and/or Permethrin on clothes. Follow the manufacturer's directions.
- Keep long hair tied back.
- Remove any ticks you find on you within the first 24 hours.
- Wear long pants, long-sleeved shirts, socks and a hat.
- Tuck pant-legs into socks.
- Tape pant-legs cuffs to your socks and tape sleeves at the wrists when working for extended periods in heavily tick-infested areas.
- Wear light-colored clothing so as to spot the ticks more easily.
- Have co-workers perform periodic visual "tick-checks" of one another's clothing.
- Remove ticks from clothes before going indoors.
- Wash clothing in hot water and dry in the clothes dryer for at least one hour to ensure ticks are dead.
- Check yourself carefully for embedded ticks when showering or dressing. Common places to find ticks are the armpits, scalp and groin.

To remove an embedded tick:

- Using a pair of fine-pointed tweezers, grasp the tick by the head or mouthparts right where they enter the skin. **DO NOT** grasp the tick by the body.
- Pull firmly and steadily directly outward. **DO NOT** twist the tick out or apply petroleum jelly, a hot match, alcohol or any other irritant to the tick in an attempt to get it to back out. These methods can increase the chances of the tick transmitting the disease.
- Clean the bite with disinfectant.
- Watch the site of the bite for the appearance of a rash beginning 3 to 30 days after the bite. If a rash and/or other early symptoms develop, see a physician immediately.



## Treating Lyme Disease

If detected early, Lyme disease can generally be treated very successfully with antibiotics. If you develop a spreading rash or any of the other Lyme disease early stage symptoms, seek professional medical assistance and treat the symptoms right away.

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