

LYME DISEASE

By Alan S. Peterson, MD



Lyme disease is caused by the bacterium *Borrelia burgdorferi* and is often transmitted through the bite of an infected blacklegged tick, also known as a deer tick. It is the most common tick-borne disease in the Northern Hemisphere.

Typical symptoms include fever, headache, fatigue and a characteristic skin rash. If left untreated, infection can spread to joints, the heart and the nervous system.

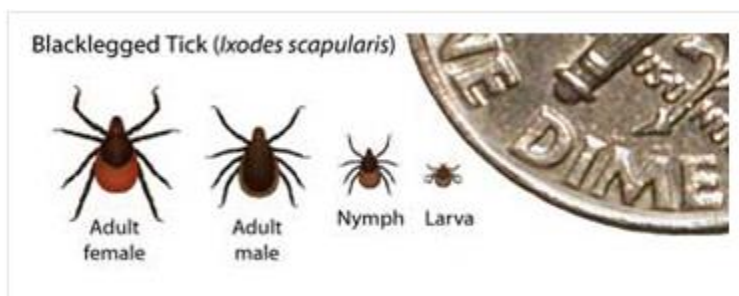
Pennsylvania has reported more cases of Lyme disease in the past five years than any other state in the nation due to increase climate warming and moisture. In 2014, Pennsylvania reported a total of 17,446 confirmed cases of Lyme disease and in 2015 there were 10,817 new cases with provisional cases to be confirmed later in 2016.

Pennsylvanians in all counties now are at risk for Lyme disease and should take steps to protect themselves when outdoors, including using insect repellent with DEET (20-30%), wearing long sleeve shirts and long pants, and checking for and removing any ticks.

Ticks can attach to any part of the human body but are often found in hard-to-see areas such as the groin, armpits, and scalp. In most cases, the tick must be attached for 36 to 48 hours or more before the Lyme disease bacterium can be transmitted.

Most humans are infected through the bites of immature ticks called nymphs. Nymphs are tiny (less than 2 mm) and difficult to see; they feed during the spring and summer months. Adult ticks can also transmit Lyme disease bacteria, but they are much larger and are more likely to be discovered and removed before they have had time to transmit the bacteria. Adult *Ixode* sticks are most active during the cooler months of the year.

Relative sizes of blacklegged ticks at different life stages



In general, adult ticks are approximately the size of a sesame seed and nymphal ticks are approximately the size of a poppy seed.

Are there other ways to get Lyme disease?

- There is no evidence that Lyme disease is transmitted from person-to-person. For example, a person cannot get infected from touching, kissing, or having sex with a person who has Lyme disease.
- 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.
- Although no cases of Lyme disease have been linked to blood transfusion, scientists have found that the Lyme disease bacteria can live in blood that is stored for donation. Individuals being treated for Lyme disease with an antibiotic should not donate blood. Individuals who have completed antibiotic treatment for Lyme disease may be considered as potential blood donors. Information on the current criteria for blood donation is available on the Red Cross website (<http://www.redcrossblood.org/donating-blood/eligibility-requirements>)
- Although dogs and cats can get Lyme disease, there is no evidence that they spread the disease directly to their owners. However, pets can bring infected ticks into your home or yard. Consider protecting your pet, and yourself, through the use of tick control products for animals.
- You will not get Lyme disease from eating venison or squirrel meat, but in keeping with general food safety principles, always cook meat thoroughly. Note that hunting and dressing deer or squirrels may bring you into close contact with infected ticks.
- There is no credible evidence that Lyme disease can be transmitted through air, food, water, or from the bites of mosquitoes, flies, fleas, or lice.
- Ticks not known to transmit Lyme disease include Lone star ticks (*Amblyomma americanum*), the American dog tick (*Dermacentor variabilis*), the Rocky Mountain wood tick (*Dermacentor andersoni*), and the brown dog tick (*Rhipicephalus sanguineus*).