

## Signs and Symptoms

Early Lyme symptoms (about three-30 days after the tick bite) include:

- › erythema migrans (EM), a type of skin rash;
- › fatigue;
- › fever and chills;
- › headaches;
- › joint pain; and
- › swollen lymph nodes.

EM is a common skin rash in Lyme disease. It typically first appears at the tick bite site as a red or purplish round or oval rash. It may expand in size and may look like a bull's eye, but this is not always the case. Eventually, multiple rashes may appear all over the body. You may not have or notice a rash, but you may feel like you have the flu.

Late Lyme symptoms (30 or more days after tick bite)

- › arthritis symptoms – pain and swelling of the joints;
- › nerve pain or paralysis including Bell's palsy;
- › meningitis symptoms;
- › cardiac symptoms; and
- › memory or concentration problems

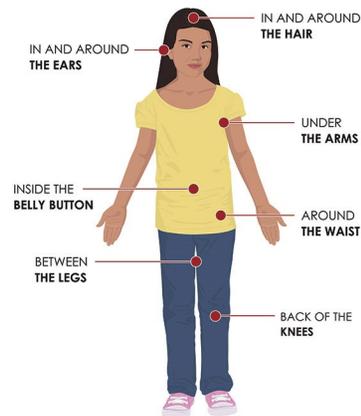
You can get Lyme disease more than once.

## Treatment

Lyme disease is treated with antibiotics, typically doxycycline, amoxicillin, or cefuroxime axetil. Some people may not feel completely recovered after treatment. This is known as Post Treatment Lyme Disease Syndrome and is believed to be a result of tissue damage caused by Lyme disease. Symptoms typically resolve within months with appropriate treatment.

## Prevention

- › Use insect repellents containing DEET, picaridin, IR3535, oil of lemon eucalyptus, para-menthane-diol, or 2-undecanone.
- › Treat shoes, clothing and gear with 0.5% permethrin.
- › Shower as soon as possible after spending time outdoors.
- › Check for ticks daily.



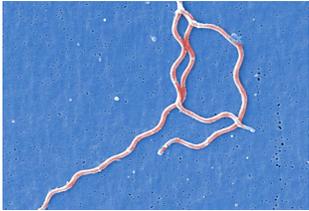
## LYME DISEASE: WHAT YOU NEED TO KNOW



- › TRANSMISSION
- › SIGNS AND SYMPTOMS
- › TREATMENT
- › PREVENTION

## What is Lyme disease?

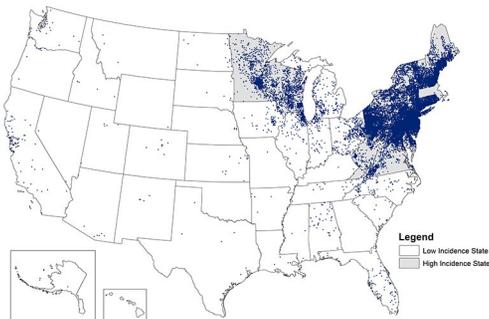
Lyme Disease is a disease caused by the bacteria *Borrelia burgdorferi*. *Borrelia burgdorferi* is transmitted by the bite of a deer tick, also known as a blacklegged tick.



*Borrelia burgdorferi* is a corkscrew-shaped bacteria.

## Where is it found?

In the U.S., most cases of Lyme disease are reported from states in the Northeast and Upper Midwest areas of the country.



Lyme Disease cases, US, 2019

For Lyme disease to be transmitted in an area both the deer tick and infected animals must be present.

## How is it spread?

Ticks are infected with *Borrelia burgdorferi* when they feed on an infected animal, typically a white footed mouse. The tick may later feed on a person and transmit Lyme if attached for a day or more.

Nymphal ticks are most likely to transmit Lyme disease because of their small size (about the size of a poppy seed), making them difficult to see. Nymphs are present from May through July when people spend a lot of time outdoors. Adult ticks can also transmit Lyme, but they are larger, easier to see and are abundant in the fall months.

An attached deer tick nymph.



Lyme disease cannot be transmitted from one person to another through touching, kissing or sex. Lyme disease may cross the placenta during pregnancy and cause stillbirth. However, no negative effects on the fetus have been observed when Lyme disease is treated appropriately with antibiotics. Lyme transmission from breastfeeding or blood transfusions has not been reported.

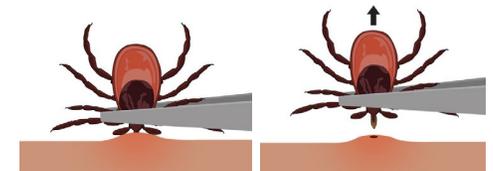
## How common is it?

Very common. Deer ticks are present in all 67 counties in Pennsylvania. About one in four nymphs and one in two adult ticks are infected with the bacteria that causes Lyme disease. Pa. reports more than 10,000 cases of Lyme disease every year. Since many cases are not diagnosed or reported, the actual number of cases may be much higher.

## How do I remove a tick?

It is important to remove an attached tick as soon as possible.

- › Firmly grasp the tick as close to the skin as possible.
- › Pull straight up on the tick.
- › Wash the area with soap and water or rubbing alcohol.



For more information on Lyme disease and other tickborne diseases transmitted in Pennsylvania visit:

