

# Lyme Disease



Infectious Disease  
Epidemiology &  
Prevention Division

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## What is Lyme disease?

Lyme disease is the most commonly reported tick-borne disease in Indiana and in the United States. In Indiana, the blacklegged tick (*Ixodes scapularis*) transmits the *Borrelia* species bacteria that causes Lyme disease. There are measures you can take to prevent Lyme disease. However, if you do become infected, most infections are treatable with a short course of commonly prescribed antibiotics.

## What are the symptoms of Lyme disease?

Signs and symptoms of Lyme disease include

- An expanding skin rash, called erythema migrans (EM rash)
- Flu-like symptoms (fever, chills, headache, fatigue, swollen lymph nodes)
- Severe joint pain and swelling
- Neurologic symptoms (numbness, pain, facial palsy)
- Heart problems (irregular heart rhythm)

An EM rash, when present, appears 3-20 days at the site of the tick bite. The rash can appear on any area of the body and may have a central clearing as it expands, resulting in a "bull's-eye" appearance. The rash may be warm, but it is rarely itchy or painful. Not all rashes that occur following a tick bite are due to Lyme disease.

## How is Lyme disease diagnosed and treated?

Diagnosis of Lyme disease is based upon the presence of signs and symptoms, a history of possible exposure to ticks, and appropriate laboratory testing. Early recognition of symptoms is important and people treated in the early stages of Lyme disease usually recover after a short course of antibiotics.

Some people may continue to have non-specific symptoms such as fatigue, pain, and joint and muscle aches that persist for months after treatment. This is called post-treatment Lyme disease syndrome, or PTLDS.

## How is Lyme Disease prevented?

The key to preventing Lyme disease is avoiding tick bites. However, these ticks can be very small and difficult to see. Adult ticks are approximately the size of a sesame seed and nymphal ticks are as small as a poppy seed.

Wearing an EPA-registered insect repellent, reducing the amount of exposed skin, and checking your body for ticks are important steps in preventing Lyme disease and other tick-borne illness. It's important to know where you might find ticks and when ticks are active. Blacklegged ticks are most encountered in wooded environments. In Indiana, nymphal ticks are most active during spring and summer and adults are most active during the fall and early spring. However, adult ticks may be active any time temperatures are above freezing.

In general, CDC does not recommend taking antibiotics after tick bites to prevent tickborne diseases. However, in certain circumstances, a single dose of doxycycline after a tick bite may lower your risk of Lyme disease.

Consider talking to your healthcare provider if you live in an area where Lyme disease is common.

Blacklegged tick (*Ixodes scapularis*)



Adult  
female



Adult  
male



Nymph



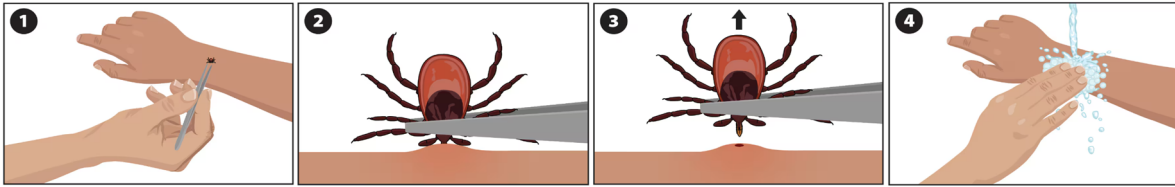
Larva



## What should be done after a tick bite?

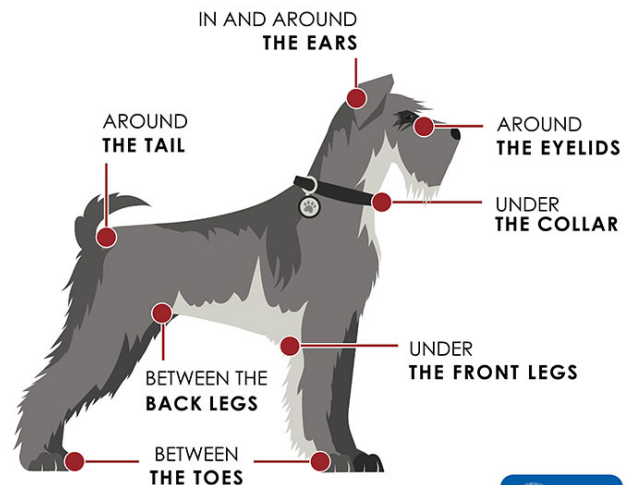
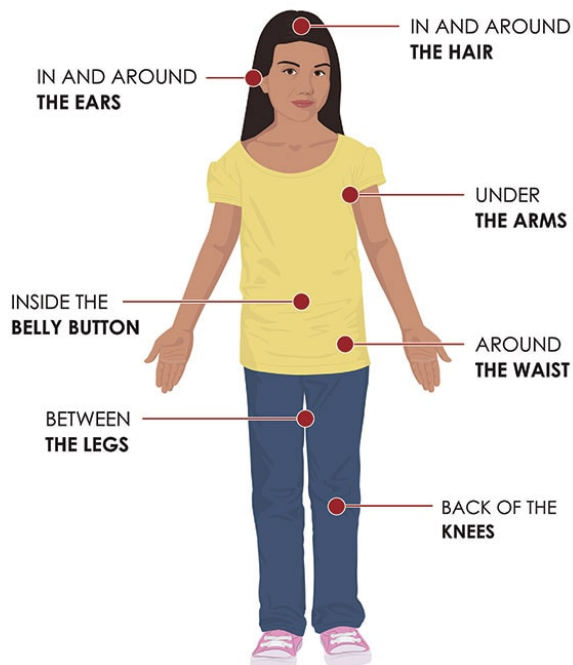
People who have removed an attached tick sometimes question if it should be tested for tick-borne diseases. Some laboratories offer this testing, but IDOH does not recommend it. If the tick tests positive, it does not necessarily indicate the individual is infected; if the tick tests negative, it may provide a false security as the individual could've been unknowingly bitten by a different infected tick.

In instances where you notice an attached tick, follow the steps below for proper removal.



1. Use clean, fine-tipped tweezers for tick removal. In instances where tweezers are not available shield your fingers with a paper towel, tissue, or gloves.
2. Grasp the tick as close to the skin's surface as possible.
3. Pull upward with steady even pressure. Don't twist or jerk the tick; this can cause the mouth-parts to break off and remain in the skin. If this happens, remove the mouth-parts with tweezers. If you cannot remove the mouth easily with tweezers, leave alone and let the skin heal.
4. After removing the tick, thoroughly clean the bite area and your hands with rubbing alcohol or soap and water.

## How do you check your body and your pets for ticks?



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### More Information

For more information on Lyme disease, visit the IDOH Lyme disease webpage.

