

## PREVENT TICK BITES

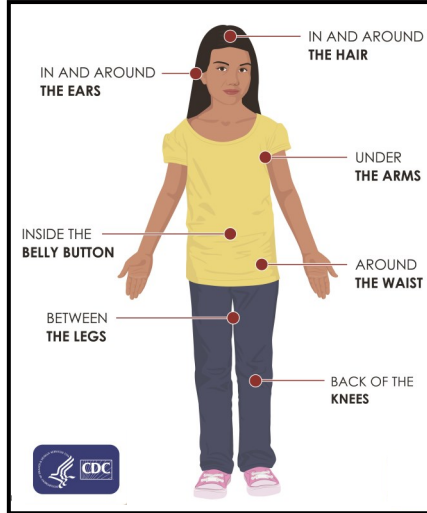
### ON PEOPLE—

Use insect repellents containing DEET, picaridin, or IR3535 on skin and permethrin on clothing.

**Avoid contact with ticks.** Avoid woods and areas with high grass and leaf litter. Walk in the center of trails.

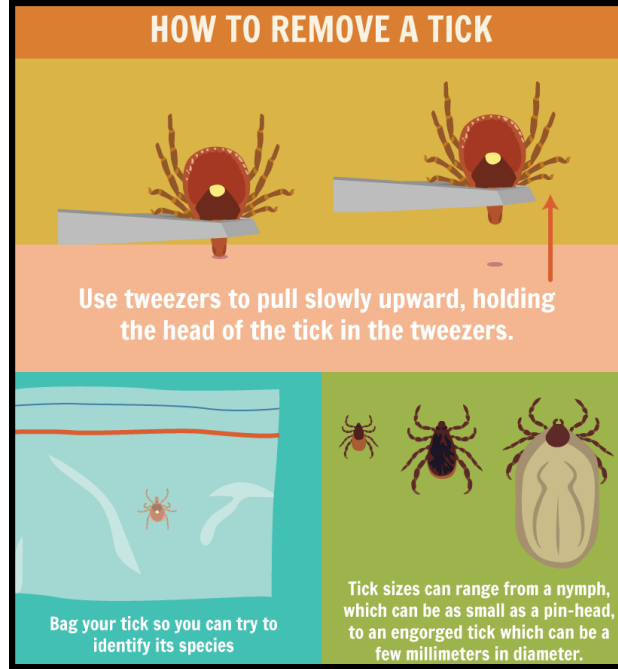
**Check your clothing for ticks.** Put clothes in dryer on high heat to kill ticks.

**Check your body for ticks after being outdoors.** Focus on areas shown in the picture when checking your body for ticks.



## HOW TO REMOVE TICKS

### HOW TO REMOVE A TICK



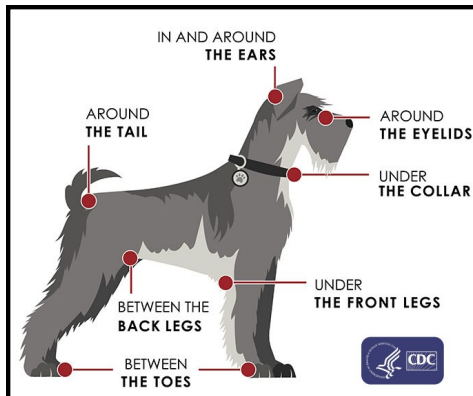
## TICKS AND TICK-BORNE DISEASES IN INDIANA



### ON PETS—

Talk to your veterinarian about tick prevention products for your dog and tick-borne diseases in your area. To further reduce the chances that a tick bite will make your dog sick, check your pets for ticks daily. If you find a tick on your pet,

remove it right away. Note: Cats are sensitive to chemicals. Do not apply any tick prevention products to cats without asking your veterinarian!



DO+		DON'T
Grasp the tick as close as possible to the head	Pull firmly to remove the whole tick	<b>DON'T</b> twist, jerk, tug, or crush the tick
Consult your doctor or veterinarian for next steps	Wear insect repellent or insect repelling clothing while hiking	<b>DON'T</b> use your fingernail to try to remove the tick
use regular flea and tick preventative for your dog, as recommended by your veterinarian	check for ticks immediately after visiting an area where ticks may be present	<b>DON'T</b> use lit matches, petroleum jelly, nail polish, or other folk remedies

THE SAFEST METHOD IS TO USE TWEEZERS OR A SPECIAL TICK REMOVAL TOOL

Elkhart County Health Department



**Environmental Health Services**  
 4230 Elkhart Road  
 Goshen, IN 46526

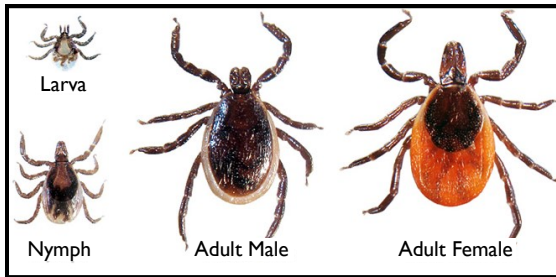
Phone: 574-971-4600  
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 E-mail: envhealth@elkhartcounty.com  
<https://health.elkhartcounty.com/en/>

## BACKGROUND

Ticks are well known parasites that impact humans, pets, livestock, and wild animals. Most tick species in Indiana feed on wild animals and livestock, but some species feed on humans and are vectors of several diseases including Lyme Disease, Spotted Fever Rickettsiosis (formally known as Rocky Mountain Spotted Fever), and Ehrlichiosis. The life cycle of a tick has four stages: egg, larvae, nymph, and adult. The following are ticks we see here in Elkhart County associated with people:

### BLACKLEGGED (DEER) TICK *Ixodes scapularis*

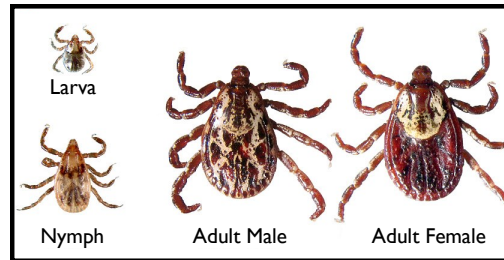
The black-legged tick, also known as the deer tick, is the smallest tick discussed here. It can be found in moist woodlands with thick leaf litter. Nymphs feed mostly on small animals, but also feed on humans and pets. Nymphs are most abundant from late spring into early summer. Adults feed on deer, and deer are very important to the spread of the deer tick within the state. Adults are found in late summer into fall and again in early spring.



Nymphs appear to be the main vectors of Lyme disease to humans and pets. Nymphs are about the size of a poppy seed and are therefore almost never seen by humans. For this reason, people entering areas inhabited by blacklegged ticks are strongly encouraged to wear proper clothing and to use a repellent. In addition to Lyme disease, the black-legged tick is a vector of human anaplasmosis and babesiosis.

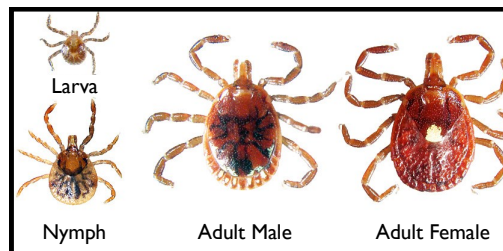
### AMERICAN DOG TICK *Dermacentor variabilis*

American Dog ticks are found in areas with little tree cover, such as grassy fields and along walkways. Nymphs are active May - July, and feed on small animals, such as mice, rabbits, and skunks. Nymphs do not feed on humans. Adults are active April- August, and are mostly found in tall grass and low lying brush. Adult American dog ticks commonly feed on dogs, cats, and humans. Nymphs and adults can transmit diseases such as Spotted fever Rickettsiosis and Tularemia.



### LONE STAR TICK *Amblyomma americanum*

Lone star ticks are found in woodlands with undergrowth and animal resting areas. Lone star ticks are notorious pests, and all stages are aggressive human biters. Adults are active April- August and can be found feeding on larger animals, such as dogs, deer, and humans. Nymphs are active May- August, and can be found feeding on deer, raccoons, turkeys, cats, dogs and humans. Nymphal and adult stages can transmit pathogens causing Ehrlichiosis and Spotted fever Rickettsiosis.



## TICK-BORNE DISEASES

### LYME DISEASE—

Lyme disease is caused by the bacterium *Borrelia burgdorferi* and is spread to humans by the bite of an infected blacklegged tick. Symptoms include fever, headache, fatigue, and a characteristic “bullseye” skin rash. Most cases of Lyme disease can be treated successfully with a few weeks of antibiotics. If left untreated, infection can spread to joints, the heart, and the nervous system.



### SPOTTED FEVER RICKETTSIOSIS -

Spotted fever Rickettsiosis is caused by the bacterium *Rickettsia rickettsii* and is spread to people by the bite of an infected American dog tick or lone star tick. Symptoms include a red, spotted, non-itchy rash that starts on the hands, arms, feet, and legs and occurs 5 to 10 days after the bite, fever, headache, chills, nausea or vomiting, and body aches. Spotted Fever Rickettsiosis is a serious illness that needs treatment as soon as possible.



### EHRlichiosis—

Ehrlichiosis is a bacterial illness transmitted by ticks that causes flu-like symptoms. The signs and symptoms of ehrlichiosis range from mild body aches to severe fever. Symptoms usually appear within a week or two of a tick bite. If treated quickly with appropriate antibiotics, ehrlichiosis generally improves within a few days. Untreated ehrlichiosis with persistent symptoms can result in an illness serious enough to require hospitalization.

