

## Prevent tick bites!

**Recognize and avoid tick habitat:** Ticks wait on vegetation (tall grass, bushes and tree branches) with their front legs out, ready to grab onto a host. To avoid them, walk in the center of trails and try not to brush against vegetation.

**Dress to suppress:** Wear long pants and long sleeves, light colored so ticks stand out. Ticks usually latch onto feet/legs and crawl up, so tuck your shirt into pants and pants into socks.

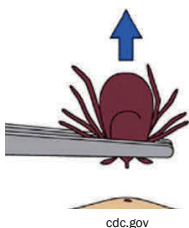


Matt2 Silver, Instructables.com

**Safely use repellents:** Use 20-30% deet-based repellents or treat clothes with permethrin. Follow label instructions and reapply as needed.

**Perform tick checks:** Remove clothing and wash on high heat to kill ticks. Carefully inspect the body for new dark spots and “freckles”. Don’t forget to check hair, ears, armpits and groin.

**Remove ticks promptly:** Grasp the tick with a fine-tipped tweezers as close to the skin as possible. Pull upwards with a slow, steady force. Try not to crush the tick.



cdc.gov

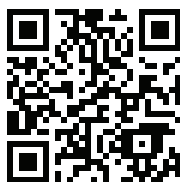
## If you do get bit...

Early signs and symptoms of a tick-borne disease can include any combination of the following: skin rash, tiredness, fever, chills, headache, stiff neck, muscle aches, joint pain/swelling, or dizziness. **See your health care provider if you develop any of these symptoms after a tick bite.**

For more information about tick-borne disease visit:

New Jersey Department of Health

<http://www.nj.gov/health/cd/izdp/vbi.shtml>



Centers for Disease Control

<http://www.cdc.gov/ticks/index.html>

More information about Monmouth County’s Tick Identification & Testing Program can be found at:

[visitmonmouth.com/mosquito](http://visitmonmouth.com/mosquito)



or contact us at  
(Tel): 732-542-3630  
[ticks@co.monmouth.nj.us](mailto:ticks@co.monmouth.nj.us)

Tick-borne Diseases Program  
Monmouth County Mosquito Control  
1901 Wayside Road, Tinton Falls NJ 07724

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## Protect your family



## Learn about ticks, disease, and prevention

Monmouth County  
Mosquito Control Division  
Tick-borne Diseases Program



A program of the  
Monmouth County Board of Chosen Freeholders  
Freeholder Patrick Impreveduto, liaison

## Tick biology: the basics

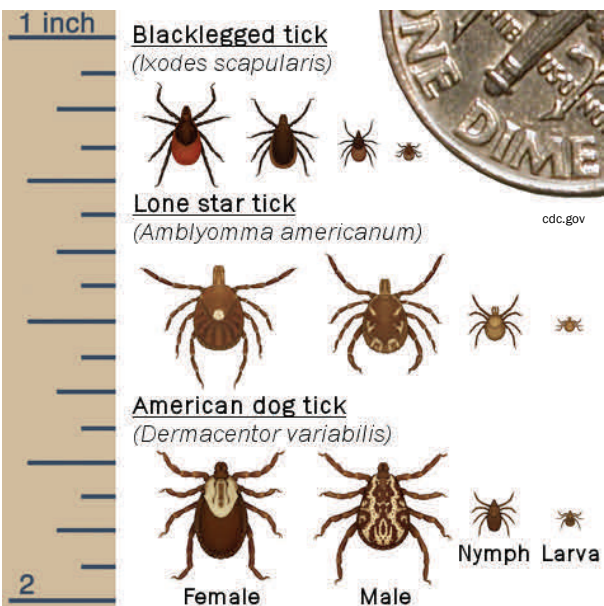
Ticks are small critters in the arachnid group, related to spiders. They have three life stages: larva, nymph, and adult. Each life stage must feed on blood in order to grow into the next stage. After attaching to a host they feed slowly, over several days, then fall off. While feeding some of their saliva mixes with the host's blood, and if their saliva contains disease organisms (from a previous meal) then the host can become infected.



Tick after feeding

## Meet the culprits

In our area three tick species are responsible for transmitting disease to humans.



Larvae (who have not yet fed) cannot transmit disease. While adults are more likely to be infected, most disease cases actually come from nymphs because they are harder to see.

## Diseases carried by ticks

Below are the diseases that ticks in Monmouth might carry, ranked from most to least prevalent based on 2016 case data (NJDOH) and population estimates (US census).

### Lyme disease (*Borrelia burgdorferi*)

Vector: Black-legged ticks

Disease agent: Bacteria

Incidence: **78.04 cases per 100,000**

# #1

### Babesiosis (*Babesia microti*)

Vector: Black-legged ticks

Disease agent: Protozoan (related to malaria)

Incidence: **3.81 cases per 100,000**

# #2

### Anaplasmosis (*Anaplasma phagocytophilum*)

Vector: Black-legged ticks

Disease agent: Bacteria

Incidence: **1.59 cases per 100,000**

# #3

### Rocky Mountain spotted fever (*Rickettsia spp.*)

Vector: American dog ticks

Disease agent: Bacterial, *Rickettsia spp.*

Incidence: **0.95 cases per 100,000**

# #4

### Ehrlichiosis (*Ehrlichia chaffeensis*)

Vector: Lone star ticks

Disease agent: Bacteria

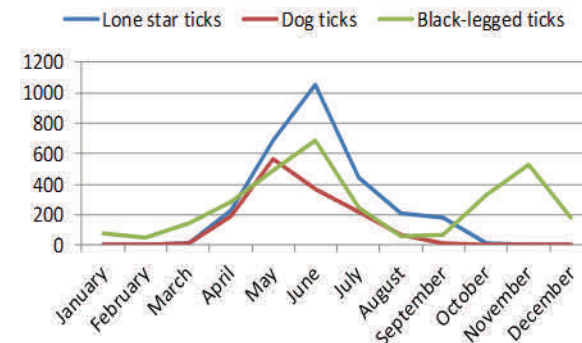
Incidence: **0.95 cases per 100,000**

# #5

**In most cases ticks must be attached for at least 24 hours to transmit a disease agent. Prompt removal of ticks greatly reduces the probability of disease.**

## When is "tick season"?

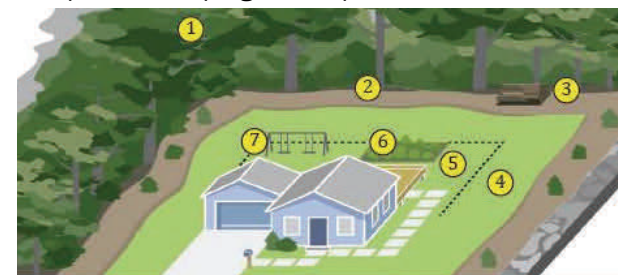
Cumulative submissions to Monmouth County's tick identification & testing program, 2001-2015.



While risk of ticks is greatest May-July, they can actually be encountered any day that temperatures rise above 45°F, even for a short time.

## Tick-proof your yard

Reduce tick encounters in your yard with a few simple landscaping techniques:



- 1 Tick zone** Avoid areas with forest and brush where deer, rodents, and ticks are common.
- 2 Wood chip barrier** Use a 3 ft. barrier of wood chips or rock to separate the "tick zone" and rock walls from the lawn.
- 3 Wood pile** Keep wood piles on the wood chip barrier, away from the home.
- 4 Tick migration zone** Maintain a 9 ft. barrier of lawn between the wood chips and areas such as patios, gardens, and play sets.
- 5 Tick safe zone** Enjoy daily living activities such as gardening and outdoor play inside this perimeter.
- 6 Gardens** Plant deer resistant crops. If desired, an 8-ft. fence can keep deer out of the yard.
- 7 Play sets** Keep play sets in the "tick safe zone" in sunny areas where ticks have difficulty surviving.

Based on a diagram by K. Stafford, Connecticut Agricultural Experiment Station