

## 2014 MOST FREQUENT QUESTIONS AND ANSWERS ON LYME DISEASE

### **Where are ticks most often found in nature?**

According to the *Tick Management Handbook* published by the Connecticut Agricultural Experiment Station The blacklegged or deer tick is found mainly in densely wooded areas or unmaintained transitional edge habitat between woodlands and open areas. Within the lawn, most are found close to the lawn perimeter that separates lawn from woodlands.

Be careful when encountering ground cover and stone walls as rodents that transport ticks are often traveling there. Fewer ticks are found in the bright, sunny areas of the lawn, out on the manicured golf course or on a well-tended recreation field. You will find be more likely to encounter ticks where it is shady, moist and messy.

Watch out for leaf litter, brushy areas and the woods. Fencing, spraying chemical insecticides and vegetative modifications have been shown to make an area less suitable for tick survival.

Source:

*Tick Management Handbook*

[www.ct.gov/caes/lib/caes/documents/special\\_features/tickhandbook.pdf](http://www.ct.gov/caes/lib/caes/documents/special_features/tickhandbook.pdf)

### **Which tick repellents are most effective for children?**

The potential severity of tick-borne diseases makes it especially important for adults to evaluate the science when making decisions about repellents for their children. According to the CDC, children 5 to 14 years of age are at high risk for contracting Lyme disease and the Northeast is where most of these infections occur.

Two of the most common personal products in use today are DEET and permethrin.

DEET is used on exposed skin, as a repellent. The American Academy of Pediatrics (AAP) ranks chemical repellents containing DEET as "best defense" products for biting insects, approving their use for children as young as 2 months in concentrations of 30% or less. The AAP encourages parents to follow label directions carefully for all repellent products and to avoid products that combine DEET with sunscreen. Application times differ and the DEET may make the sunscreen less effective according to the AAP.

Permethrin products are never suggested for skin. Permethrin is sprayed on clothing and it kills ticks on contact. The spray treatment continues to protect clothing through several washings and may be used on outdoor equipment such as sleeping bags and tents.

Source:

healthychildren.org (AAP)

### **How is permethrin effective against tick bites?**

Permethrin is a synthetic version of a natural compound found in chrysanthemum flowers, pyrethrum. You can purchase the odorless, invisible product to apply yourself or buy clothing already treated from outdoor stores.

One industrious former Lyme disease patient has even created her own line of clothing called BugBeWear. Permethrin clothing repellents are recommended by the CDC and the American Academy of Pediatrics (AAP). The EPA has given permethrin treated clothing a favorable assessment.

Permethrin is not intended for use on skin and only protects the skin actually covered by the treated clothing. If you're doing this yourself, the product should be applied outdoors when you are not wearing the clothing.

Treated clothing remains effective through multiple washings (read labels carefully) and should be washed separately. Consider this product for children heading off to sleep-away camp where nightly tick checks and showers may be unreliable.

Sources:

National Pesticide Information Center: <http://npic.orst.edu/pest/mosquito/ptc.html>

EPA: <http://www.epa.gov/pesticides/factsheets/factory-treated-clothing.html>

University of Rhode Island TickEncounter Resource Center:

<http://www.tickencounter.org/prevention/permethrin>

CDC: [http://www.cdc.gov/ticks/avoid/on\\_people.html](http://www.cdc.gov/ticks/avoid/on_people.html)

Insect Shield: [insectshield.com](http://insectshield.com)

### **Are there natural repellents that are effective against ticks?**

There are a number of plant-derived products available for use as insect repellents. Limited information is available regarding how well these products work and how safe they are in deterring tick attachments or preventing illness. The information that is available shows that these products do not work as well or as long as products like DEET or permethrin against ticks.

Source: [www.mass.gov/eohhs/docs/dph/cdc/factsheets/tick-repellents.rtf](http://www.mass.gov/eohhs/docs/dph/cdc/factsheets/tick-repellents.rtf)

The National Pesticide Information Center offers an “Insect Repellent Locator” to search statistics on registered repellent products. Minimum risk pesticides are exempt from product registration. This can be found at: <http://pi.ace.orst.edu/repellents/>

The Environmental Protection Agency (EPA) also offers a search tool for EPA registered repellents and their protection times. This guide will help determine the repellent options that best meet your protection needs. This can be found at: <http://cfpub.epa.gov/oppref/insect/>

### **If I don't like to use repellents on family members, how can I still keep them safe from ticks?**

There are many practices you can adopt to help keep your family protected from ticks:

- **Avoid Tick Habitat** - Before you go outdoors learn the areas where they are most likely to be found. Ticks live in moist and humid environments, particularly in or near wooded or grassy areas. You may come into contact with ticks during outdoor activities around your home or when walking through leaf litter or near shrubs. Always walk in the center of trails in order to avoid contact with ticks.
- **Check your clothing for ticks** - Ticks may be carried into the house on clothing. Any ticks that are found on clothing should be removed and properly disposed of. Placing clothes into a dryer on high heat for at least an hour effectively kills ticks.
- **Shower soon after being outdoors-**. Showering within two hours of coming indoors has been shown to reduce your risk of Lyme disease. Showering may help wash off unattached ticks and it is a good opportunity to do a tick check.
- **Check your body fully for ticks daily.** – Take your time and be thorough. Use a hand-held mirror if necessary to view all parts of your body. Remember to check under the arms, in and around the ears, inside belly button, back of the knees, in and around the hair, between the legs, between the legs and around the waist.
- **Stop outdoor pets from bringing ticks in to your home.** - Check pets daily for ticks, avoid sleeping with pets and consider veterinary tick-control products.
- **Modifying your landscape to reduce ticks.**- Remove leaf litter and clear tall grasses and brush around homes. Place wood chips or gravel between lawns and wooded areas to keep ticks away from recreational areas. Keep play areas and playground equipment away from shrubs and other vegetation. Position in sun lit areas. Consider using a chemical control agent. Effective tick control chemicals are available for use by the homeowner, or they can be applied by a professional pest control expert. Even limited applications can greatly reduce the number of ticks. Also, you can discourage deer by removing plants that attract deer and constructing physical barriers.

Sources:

<http://www.cdc.gov/features/stopticks/>

[http://www.ct.gov/caes/lib/caes/documents/special\\_features/tickhandbook.pdf](http://www.ct.gov/caes/lib/caes/documents/special_features/tickhandbook.pdf)

### **What is the best way to remove a tick?**

According to the CDC, tweezers are the best method to remove ticks.

- Grasp it close to the mouth parts near the skin surface.
- With gentle, steady pressure, pull the tick upward away from the skin until the tick releases.
- Once the tick is removed, wash the area of the bite with antiseptic or rubbing alcohol.
- Do not smother ticks in petroleum jelly, use a hot match, gasoline or any other chemical to remove a tick.
- Save tick in a plastic baggy for identification and possible testing. Ticks taped to paper cannot be tested.
- Consider submitting engorged ticks to your town/city health department for testing. See the question on tick testing for specifics.

Source: Centers for Disease Control and Prevention (CDC) [www.cdc.gov](http://www.cdc.gov) (Lyme)

### **Where can ticks be sent for testing?**

Most health departments in the Greater Danbury area will submit engorged ticks to the state to be tested for the presence of Lyme disease spirochetes. Fees may apply in some towns.

You may choose to select a lab that will test for not only Lyme, but Babesia and/or Anaplasma (Ehrlichia) parasites. This can be useful information for your physician when reviewing your history and making a diagnosis but remember that a positive tick does not mean that the pathogen was transmitted. You'll find an up- to- date list of labs with tick-testing capabilities on the tickencounter.org website.

Source: University of Rhode Island TickEncounter Resource Center [tickencounter.org](http://tickencounter.org)

### **If a tick falls off a pet in the house, how long will it live?**

Deer ticks (*Ixodes scapularis*) are particularly susceptible to drying out. In a typical home, unfed deer ticks are not likely to survive 24 hours. Ticks on moist clothing in a hamper can survive 2-3 days. Ticks that have taken a blood meal may survive longer but not long enough to mature and bite again.

Sources:

[http://www.tickencounter.org/faq/tick\\_habitat](http://www.tickencounter.org/faq/tick_habitat)

<http://www.cdc.gov/lyme/healthcare/veterinarians.html>

## How can I keep my dog safe from Lyme disease?

Dogs are very susceptible to tick bites and tickborne diseases. Vaccines are not available for all the tickborne diseases that dogs can get, and they don't keep the dogs from bringing ticks into your home. For these reasons, the CDC recommends using a tick preventive product on your dog.

- Check your pets for ticks daily, especially after they spend time outdoors.
- If you find a tick on your dog, remove it right away.
- Ask your veterinarian to conduct a tick check at each exam.
- Talk to your veterinarian about tick-borne diseases in your area.
- Watch your dog closely for changes in behavior or appetite if you suspect that your pet has been bitten by a tick. In dogs exposed to Lyme disease, 95% do not have symptoms.
- Dogs with symptoms may have: fever, lack of appetite, lameness, and joint swelling.
- A vaccine for Lyme disease in dogs is available. It does not protect against other tickborne diseases such as Rocky Mountain spotted fever, ehrlichiosis, anaplasmosis, or babesia.
- Never use tick repellents that are intended for dogs on a cat! Consult your veterinarian for the appropriate product for your pet.

Source: [http://www.cdc.gov/lyme/prev/on\\_pets.html](http://www.cdc.gov/lyme/prev/on_pets.html)

## Do cats get Lyme disease?

Information is conflicting at this point. According to the Cornell Feline Health Center "Lyme disease is extremely rare in cats but, due to its potential severity, cat owners should be aware of the possibility of infection." Pets.webmd offers flea and tick expert Michael Dryden's opinion that cats don't get Lyme disease, but recommends tick prevention as they can get anaplasmosis, tularemia and possibly Rocky Mountain Spotted Fever. According to the CDC, clinical signs of Lyme disease in cats have not been described, though cats are affected by tickborne diseases such as ehrlichiosis, anaplasmosis, or forms of babesia.

While vaccines exist for dogs, no such vaccine has been developed for cats. Consult your veterinarian for safe repellent products to use as cats are sensitive to many insecticides, including some all-natural products and products that are marketed for dogs.

Sources: <http://pets.webmd.com/cats/guide/ticks-and-fleas-on-cats>

[http://www.vet.cornell.edu/FHC/health\\_resources/LymeDisease.cfm](http://www.vet.cornell.edu/FHC/health_resources/LymeDisease.cfm)

<http://www.cdc.gov/lyme/healthcare/veterinarians.html>

**What is the relationship of ticks, deer and small mammals?**

The blacklegged or deer tick has four stages in its two-year life cycle: egg, larva, nymph and adult. All stages except the egg are reliant on a blood meal to survive. In the larval and nymphal stage, the tick mainly feeds on small animals, such as the white-footed mouse. The white-footed mouse serves as a “reservoir” for Lyme disease, transferring the infection to new generations of ticks.

At the adult stage of the tick, the white-tailed deer serves as the predominant source of the last blood meal. Adult ticks mate and the female tick drops off, each laying 2,000 to 3,000 eggs, renewing the tick’s life cycle. In the much of the eastern United States, there is a very large overabundance of white-tailed deer.

Tick abundance can be dramatically reduced when deer populations are reduced to about 10 to 15 deer per square mile. Since overabundant deer can decimate the forest understory, giving competitive advantage to invasive plant species, there are several ecological benefits to reducing deer population.

Additionally, deer reduction offers a benefit in reducing destruction of crops and yard plantings, as well as a decline in deer-vehicle accidents, which can inflict injuries or even fatalities on humans. Other anti-tick strategies include devices that apply acaricides to mice (“bait boxes”) or to deer (“4-Posters”). These are effective within the coverage areas of the devices.

Sources:

Managing Urban Deer in Connecticut, Second Edition

[http://www.ct.gov/deep/lib/deep/wildlife/pdf\\_files/game/urbandeer07.pdf](http://www.ct.gov/deep/lib/deep/wildlife/pdf_files/game/urbandeer07.pdf)

*Tick Management Handbook*

[www.ct.gov/caes/lib/caes/documents/special\\_features/tickhandbook.pdf](http://www.ct.gov/caes/lib/caes/documents/special_features/tickhandbook.pdf)