



Lyme Disease Awareness and Prevention

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Lyme disease is a bacterial infection that may develop after a bite from a Lyme-infected blacklegged tick. The CDC estimates that more than 475,000 new cases of Lyme disease occur each year in the US but only a fraction of these cases are reported to public health officials.

Avoid Ticks and Tick Habitat



Many areas of the country are at high risk for Lyme disease. Wooded or forested regions that provide suitable tick habitat are especially at risk. This map, from the Minnesota Department of Health, depicts the risk of contracting Lyme disease or anaplasmosis (another tick-borne illness) by county; the darker the color, the higher the risk.

People who live/work/recreate in Lyme-endemic areas or tick habitat may be exposed to disease carrying ticks in a variety of settings – campsites, parks, golf courses, sports fields, and their own back yards. Pet ownership is associated with an increased risk of Lyme disease. Age-related risk is greatest in school-aged kids and lowest in young adults.

The best way to prevent Lyme disease is to avoid ticks. Stay out of tick habitat, especially areas with long grass, lots of brush or leaf litter. Stay in the center of hiking and biking trails; don't sit on fallen logs.

Many people become infected around their home. Clear away brush and fallen leaves, keep your grass short. Place lawn furniture and play structures in sunny areas of the yard. Bird feeders and wood piles attract tick-carrying mice so keep them far from the house. Don't feed deer or use plants that attract them.



Avoiding Tick bites: Dress for Success

Ticks don't bite through clothing so minimize your exposed skin by wearing long sleeves and pants whenever possible. Tuck pants legs into socks to keep ticks from crawling under the hem onto your leg. Wearing light-colored clothing makes it easier to spot ticks. Tie back long hair; better yet, wear a permethrin-treated hat. If you spend a large amount of time in tick habitat, consider investing in permethrin embedded clothing.

Avoiding Tick bites: Use Insecticides and Repellants

Insecticides and repellents reduce the risk of a tick bite. Insecticides kill ticks; repellents encourage them to leave before biting. Look for products with one of these ingredients:

- **Permethrin** is an insecticide/repellent that is essential to prevention plans. Apply it to clothing, sleeping bags, tents and other gear, but not skin, before entering tick habitat. It remains effective for 2-6 weeks and through multiple washings. Permethrin-embedded clothing remains effective through at least 16 washings. Permethrin products are sold at outdoor stores and on-line.
- **Picaridin** is a newer repellent that's as effective as DEET, use concentrations of 20%. Apply it to unbroken skin, fabrics and materials. It is non-toxic and safe for children of all ages.
- **DEET** is the best-known repellent, use concentrations of 30% or higher. DEET is safe to apply to unbroken skin, wool and cotton but it can damage other fabrics and materials, such as leather or rubber. The EPA considers DEET to be safe for kids more than 2 months old but Canada's health department recommends against using DEET on children.

- **Oil of lemon eucalyptus** is a natural product that has proven effectiveness, use concentrations of 7.75%. Apply It to unbroken skin; it won't harm fabrics. It is safe to use for people of all ages.

Avoiding Tick Bites: Change Your Clothing Once You're Out of Tick Habitat

Change out of your treated clothing as soon as possible after leaving tick habitat and before you walk through your house. Put the clothing in the dryer on high heat, this will kill ticks that may be on the garments. Dry clothes require only 15 min; damp and wet clothing should be tumbled until completely dry, which could take up to 60 min. This is a great time to take a shower; vigorous scrubbing and toweling off can dislodge ticks that aren't fully attached.

Managing Tick Bites: Tick Checks are Vital

Check for ticks frequently while in tick habitat and for 1-2 days after potential exposure. Pets that go outdoors can bring ticks indoors; check them for ticks as soon as they come indoors.

The risk of contracting Lyme disease depends on how long the tick was attached and how likely it is to be infected. Few infected ticks transmit Lyme in less than 24 hours but by 60 hours, the transmission rate is 50% and it's almost 100% if ticks are allowed to feed until full. In many high-risk areas, half of the deer ticks are infected with Lyme.



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Managing Tick Bites: Removing an Embedded Tick

If you find an attached tick, remove it as soon as possible. There are many types of tick removers on the market but a pair of tweezers will work just fine. Don't use liquid soap, gasoline, Vaseline or a lit match to provoke the tick into letting go; these methods usually don't work and may make it harder to use your tweezers. Also, because Lyme bacteria live in a tick's midgut, in theory, doing things that irritate the tick could cause it to regurgitate, increasing the risk of transmission. This is also the reason why it's best to avoid squeezing the tick's body.



Follow this process:

1. Calm down
2. Grasp the tick as close to your skin as possible.
3. Pull straight up with steady pressure until the tick is out.
4. Wash the bite area with soap and water
5. If possible, save the tick in a resealable container; your doctor may want to examine it.

Managing Tick Bites: Antibiotic Treatment of Blacklegged Tick Bites

Certain antibiotics may reduce the risk of Lyme disease if taken within 48 hours of a bite; contact your doctor immediately after a bite to discuss this strategy. Treatment decisions should not be based on blood tests done shortly after a bite because the results are unreliable. If your bite occurred in a high-risk area, following a "wait and see" approach is risky because 30% of the Lyme disease cases reported to CDC never demonstrated a Lyme rash. Antibiotic approaches are changing; ask your doctor to review this paper, "The Management of Ixodes scapularis Bites in the Upper Midwest", published in the April, 2011 edition of the Wisconsin Medical Journal, PubMed ID: 21560562.

Avoiding bites is better than managing them, in other words –

***An ounce of permethrin,
is worth a pound of antibiotics.***