

THE ESSENTIALS OF LYME DISEASE PREVENTION

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Howard County Lyme Awareness / Columbia, MD
www.HcLyme.org

Our Facilitator



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Meet our Presenter



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Lyme and Tick-Borne Disease
Prevention Expert

<http://www.boboley.com/>

Ticks – Cesspools of Disease



Female deer tick

Deer Ticks: Lyme disease, Babesiosis, Anaplasmosis, Bartonella, Mycoplasma, Borrelia Miyamotoi relapsing fever, Powassan encephalitis (deer tick virus)

Lone Star Ticks: Ehrlichiosis, Rocky Mountain Spotted Fever, STARI disease, Tularemia, Heartland virus, Red Meat Allergy



Female lone star tick

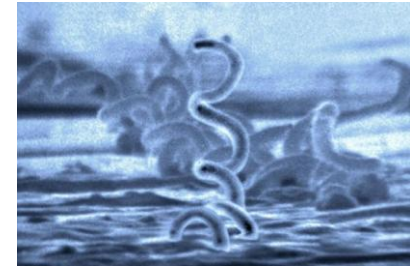


American Dog Tick: Rocky Mountain Spotted Fever, Tularemia, Tick Paralysis, Ehrlichiosis (possibly)

Female American dog tick

Lyme Disease Overview

Lyme disease (LD) is an infection caused by *Borrelia burgdorferi* – Bb.



Bb is a type of bacterium called a spirochete.

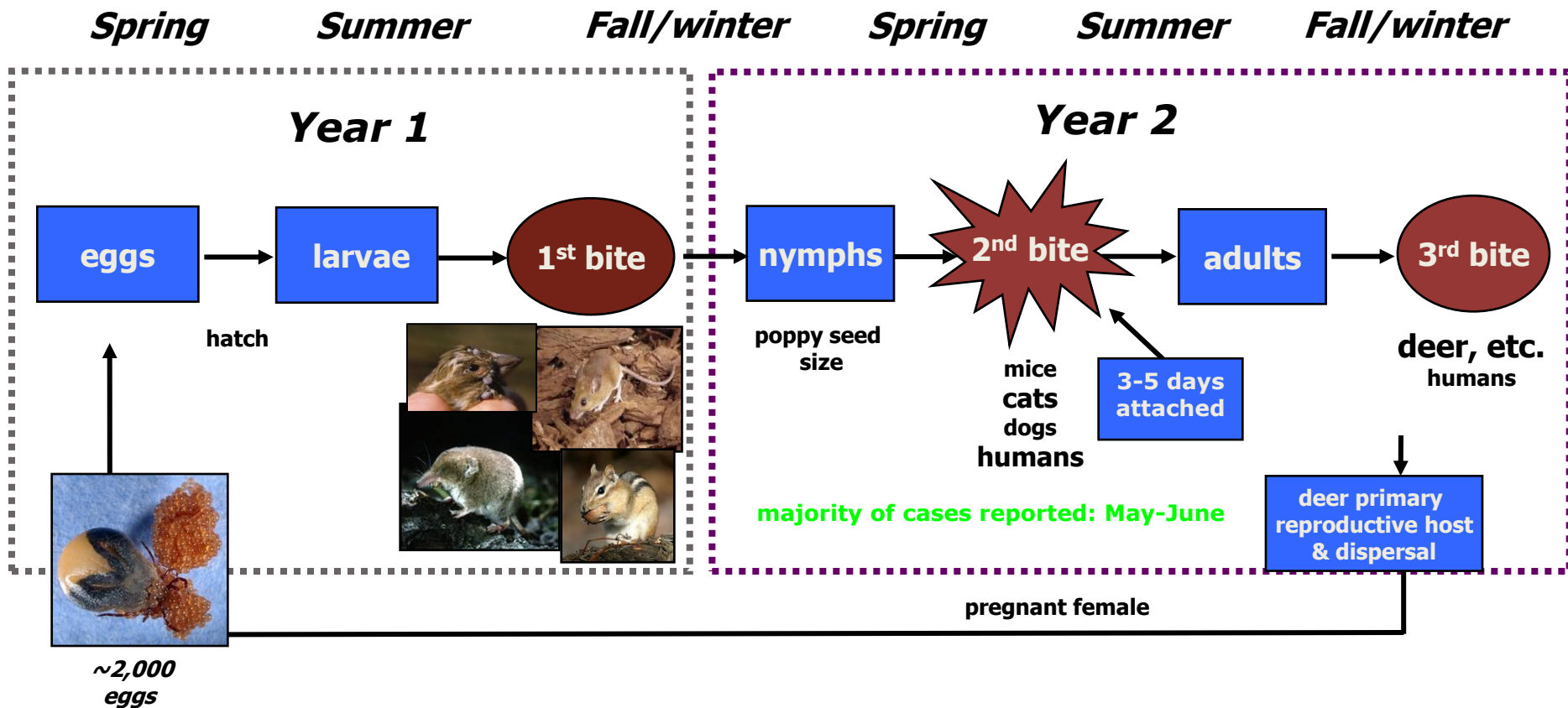


- A spirochete is shaped like a corkscrew.
- Black Legged ticks carry the Bb bacterium and transmit it to their hosts – humans and animals.

Once the Bb bacterium is transmitted it can cause a number of different symptoms.

Deer tick development cycle

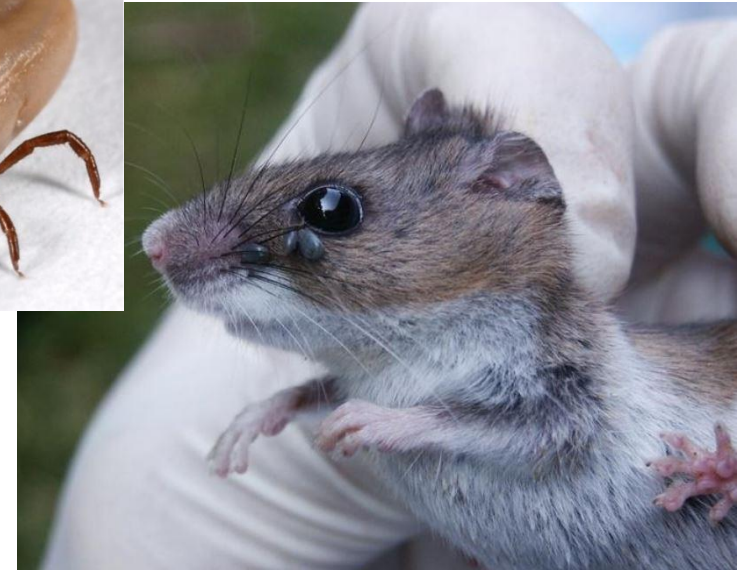
2 years, 4 tick stages, and 3 blood-meal bites



NEVER TRUST ANY TICK...



Deer aren't the only carriers



Personal Protection

- **Avoid areas known to harbor ticks** such as leaf litter (never jump in leaf piles), woodlands, meadows, ground cover (pachysandra, ivy, etc.), high grass, brushy areas, and ecotone/transition areas along the grass perimeter of woodlands, gardens, etc. Also avoided should be those places where rodents (mice, chipmunks, etc.) dwell, including in or near stonewalls, woodpiles, tree stumps, fallen logs, and outside storage sheds.



Personal Protection cont.

- **Spray clothes, hats, shoes, backpacks, tennis bags, tents, etc. with the chemical permethrin, which can be purchased through most large sporting goods stores such as Cabela's, Bass Pro, REI or Amazon. The clothing will repel and kill ticks through 5 or 6 washings, while shoes, backpacks, etc. will need to be re-sprayed a minimum every 6 weeks. It is good practice to spray shoes the first of each month starting in the spring.**





Personal Protection cont.



World Health
Organization

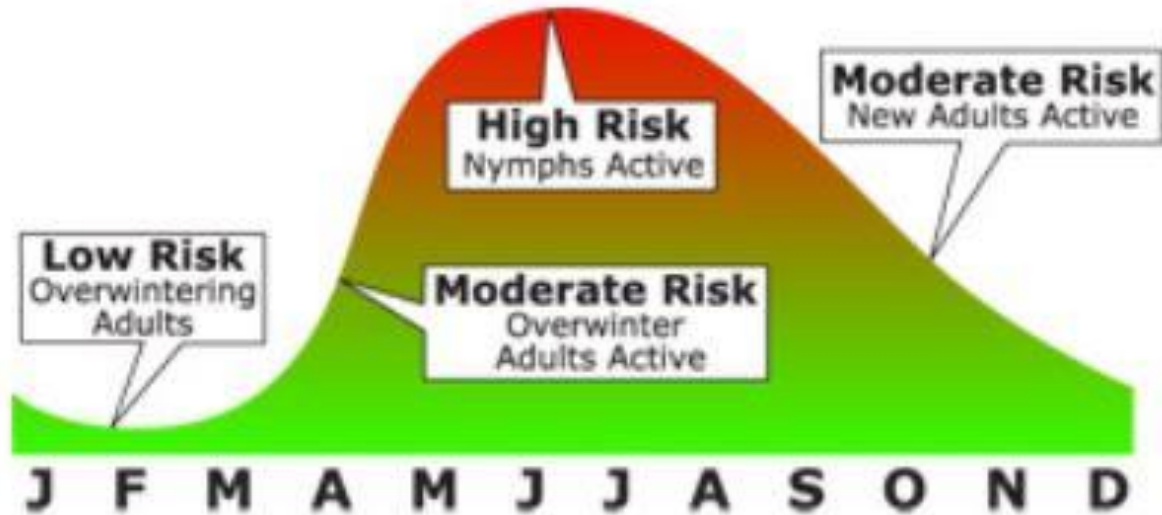
- **Purchase clothing pretreated with permethrin** from retailers such as REI, Orvis, Ex Officio, and Zorrel. Also check out the website, www.bugbewear.com, for a good selection of permethrin pretreated clothing. The clothing will repel and kill ticks for at least 70 washings or, practically speaking, for the life of the garment. The U.S. Environmental Protection Agency (EPA) approved pretreated clothing in 2003 as safe for people of all ages to wear. The U.S. Centers For Disease Control and Prevention (CDC), the World Health Organization (WHO), the U.S. National Institute For Occupational Health and Safety (NIOSH), and the American Academy of Family Physicians all recommend wearing apparel pretreated with permethrin for disease prevention.



Personal Protection cont.

- **Send clothing to Insect Shield, www.insectshield.com, to be treated with permethrin for outdoor activities (summer camps, gardening, hiking, hunting, golfing, etc.). The cost is nominal (\$8 to \$10 per item), and well worth every dollar spent.**





Be Aware of the Highest
Risk Months
of the Year

Treat your shoes.

May							June						
Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3	1	2	3	4	5	6	7
4	5	6	7	8	9	10	8	9	10	11	12	13	14
11	12	13	14	15	16	17	15	16	17	18	19	20	21
18	19	20	21	22	23	24	22	23	24	25	26	27	28
25	26	27	28	29	30	31	29	30					

July							August						
Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5						1	2
6	7	8	9	10	11	12	3	4	5	6	7	8	9
13	14	15	16	17	18	19	10	11	12	13	14	15	16
20	21	22	23	24	25	26	17	18	19	20	21	22	23
27	28	29	30	31			24	25	26	27	28	29	30
							31						

How Protected Are You?



3X protection

from ticks latching onto hands or arms and crawling under t-shirt*

5X protection

from ticks latching onto legs and crawling under shorts*



74X protection

from ticks latching onto shoes and crawling up leg

* Most ticks attached under treated clothing were dead

Courtesy of TickEncounter.com

Repellents

- **Apply tick repellents to exposed skin.** In 2008, the CDC came out with a list of four repellent ingredients that they rated equally as being effective against ticks. The ingredients included the three chemicals DEET, IR3535, and Picaridin and the natural essential oil Lemon Eucalyptus. Any products containing these can generally be counted upon to provide protection against ticks.



Other Repellents on the Market

- There are also a myriad of other products on the market with “natural” ingredients such as castor oil, cedar oil, citronella oil, geranium oil, peppermint oil, lavender, and rosemary oil that may also be effective in repelling ticks. But actual test data on how well these compounds really work to repel ticks is usually not readily available to the general public.



EPA Reviews



- The EPA is required to review and register all insect and tick repellent products that contain chemicals for product safety and efficacy. This same requirement does not apply to “natural” products unless that information is voluntarily provided to the EPA. A listing of all these registered products can be accessed from the EPA website, <http://cfpub.epa.gov/oppref/insect/>. This listing breaks down the tick repellent products by name, hourly protection time, active ingredients, company name, and EPA registration number, and is a great resource for making that all important decision on which tick repellent to use on your skin.

Personal Protection cont.

- **Remove clothing worn outdoors and place in clothes dryer on high heat for 20 to 30 minutes.** This will kill by desiccation any ticks crawling on the clothing.



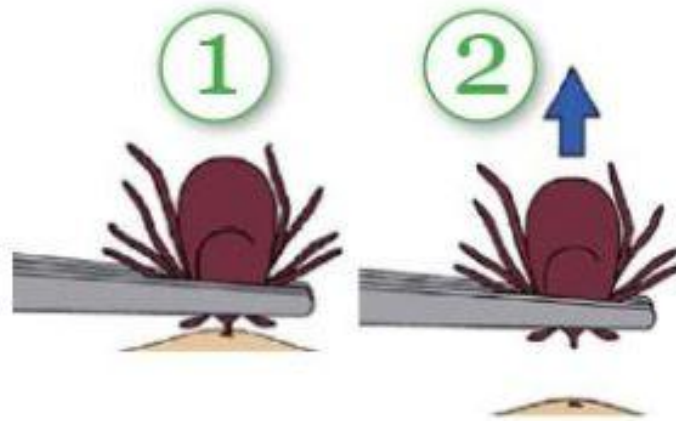
Personal Protection cont.

- **Conduct full body tick checks after outdoor activities**, as well as at night before bedtime. Ticks like moist areas of the body especially between the toes, behind the knees, in the groin, navel, armpits, behind and in the ears, and on the scalp.



Removing Ticks

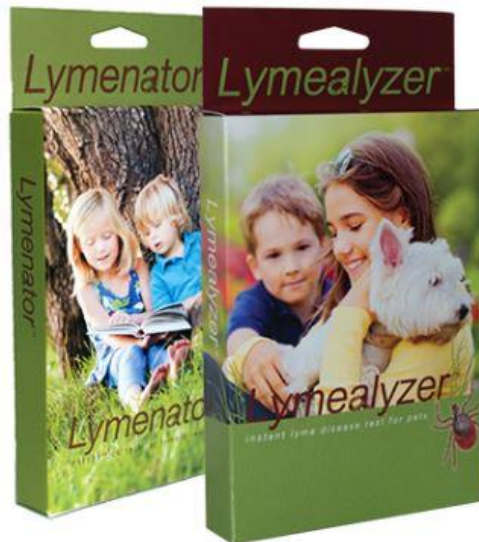
- **Safely remove attached ticks with pointed tweezers and save ticks for future testing.**



- Disinfect area.
- Consider prophylactic antibiotics.
- **NEVER** twist the tick out or apply soap, petroleum jelly, a hot match, kerosene, alcohol or any other irritant to the tick in an attempt to get it to back out. It can force the ticks fluids into the bite wound.

Tick Testing Kits

- You can purchase test kits through the Amazon website. One such kit, *Lyme-Aid* (\$16), allows you to send the tick to a lab for testing. Another kit, *Lymenator* (\$25), allows you to easily test the tick yourself for Lyme disease with results obtained within 10 minutes of testing.



Tick Resource

- **Keep informed year round about ticks in your area.** An excellent way to do this is through the University of Rhode Island's Tick Encounter Resource Center, www.tickencounter.org. Not only will this site provide you with up-to-date information on tick prevalence in your geographic area, but will also provide you with useful prevention tips important for your family and pets.



Property Management



- **Create tick-safer zones in commonly used yard and play areas.** Increase sunlight onto property, trim trees and bushes, mow grass, minimize vegetative ground cover, remove leaves and brush, move firewood piles and bird feeders away from house, use hardscape (patios, decks, etc.) and xeriscape (plants not requiring lots of water) and landscape practices.

Property Management cont.

- Move swing sets and play areas away from the edges of woodlands, establish wood chip or gravel buffers along woodland tree lines, stone walls, and under swing sets and children play areas, use plantings that do not attract deer, and install deer fencing.



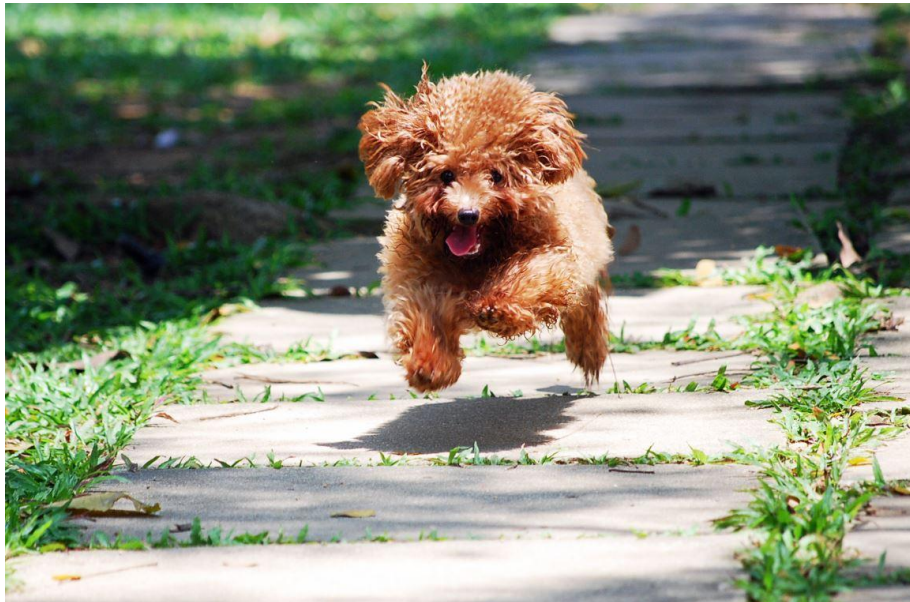
Property Management cont.

- **Use least toxic pesticide application on selective areas of your property.**
- Consider using bifenthrin (Talstar), permethrin, cyfluthrin (Tempo), cedar oil, or Essentria IC3 (rosemary oil, geraniol, and peppermint oil). A website that carries a good many pesticide items is, www.domyownpestcontrol.com.



How to Protect Your Pets

- Avoid walking your pets in areas where there are ticks and/or keep them on paved trails.
- Check pets for ticks regularly, especially after walking them.






Protecting Your Pets

- Do not let your pets run free outside.
- Provide a dog enclosure area outside and make it as tick-safe as possible.
- Have your pets wear and/or be treated with tick repellent products as recommended by your veterinarian; Consider treating your dog with the Lyme disease vaccine on the advice of your veterinarian.



Tick Repellents for Pets

 Tick preventative pet products	Whole body protection	Kills Ticks	Kills ticks on contact	Kills Fleas	Rapid tick detachment	Water Resistant	Safe for cats	Safe for dog/cat households
 K9 Advantix II <i>Permethrin* / Imidacloprid*</i> K9 Advantix II website	✓	✓	✓	✓		✓		✓**
 Frontline Plus <i>Fipronil* / Methoprene*</i> Frontline.com website	✓	✓		✓		✓	✓	✓
 Advantage II <i>Imidacloprid*</i> Advantage II website: dogs cats	✓			✓		✓	✓	✓
 Seresto Collar <i>Flumethrin* / Imidacloprid</i> Seresto website	✓	✓	✓	✓		✓	✓	✓
 Preventic Collar <i>Amatraz*</i> Virbacvet.com website		✓	✓			✓		

**contact Bayer Veterinary Services 800-422-9874 for use in mixed households with cats.



Beware!

- Beware pets can be treated themselves but still bring ticks right into your home!
- **Absolutely** do not allow your outdoor pets to lay on the furniture or sleep with you in your bed at night. Any ticks on them can be transferred to chairs, couches, and your bed and then to you.
- Consider spraying Permetherin on dog beds or rugs in case ticks hitch a ride inside.
(Read labels if using around cats!)



Please type your questions into the box on the right.



Thank You!

Bob Oley, PE, MSPH

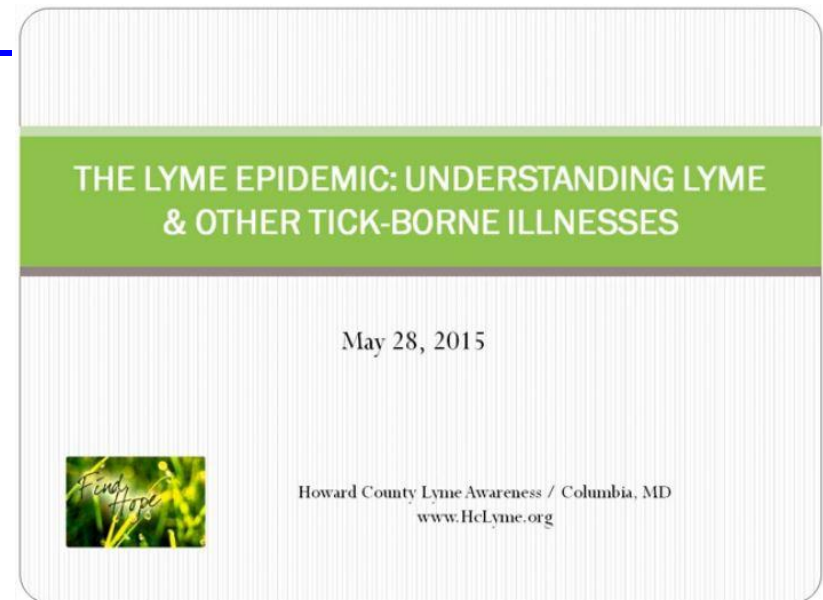
Public Health Consultant

Email: boboley1@gmail.com

Website: <http://boboley.com/>

Watch Recorded Lyme Disease Webinar with Dr. Kathy Spreen

- For more information about Lyme Disease, signs and symptoms, explanation of Lyme tests, and overview of other tick-borne illnesses, watch our recorded webinar at www.HcLyme.org



Thank you for attending!

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