



Lyme Disease considerations for those who work in the field

- The basics
- Lyme disease incidence
- Reported Lyme disease cases in PA
- PA coal regions and Lyme disease risk
- Symptoms
- Deer ticks and their seasonal occurrence
- Protection practices
- References

The basics

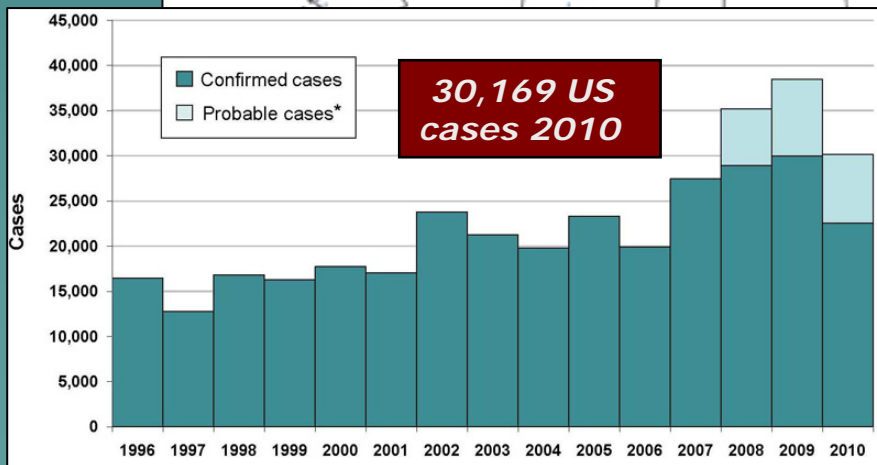
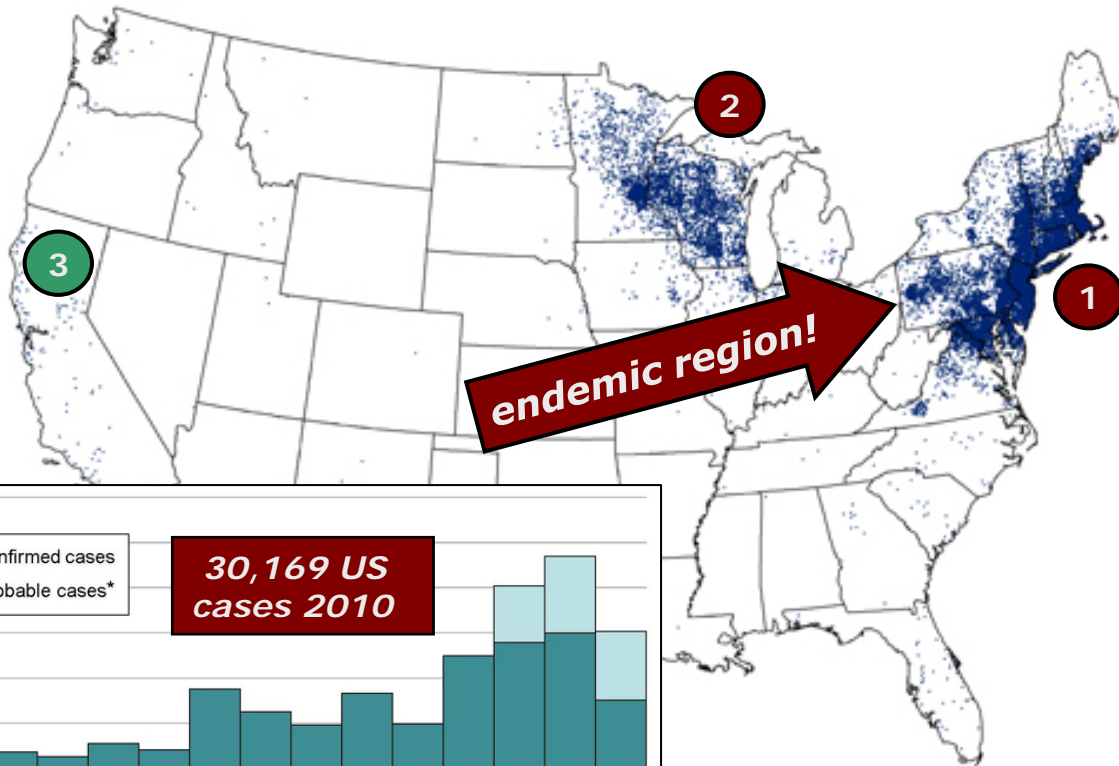


- Lyme disease is an acute and chronic bacterial infection transmitted by deer ticks
- Lyme disease is the fastest growing vector-borne disease in the US
- Other disease-causing microorganisms (coinfections) can be transmitted along with the Lyme disease bacterium
- Coinfections include: *Babesia*, *Ehrlichia*, *Anaplasma*, *Mycoplasma*, *Bartonella*, etc.

Lyme disease incidence



Reported Cases of Lyme Disease -- United States, 2010

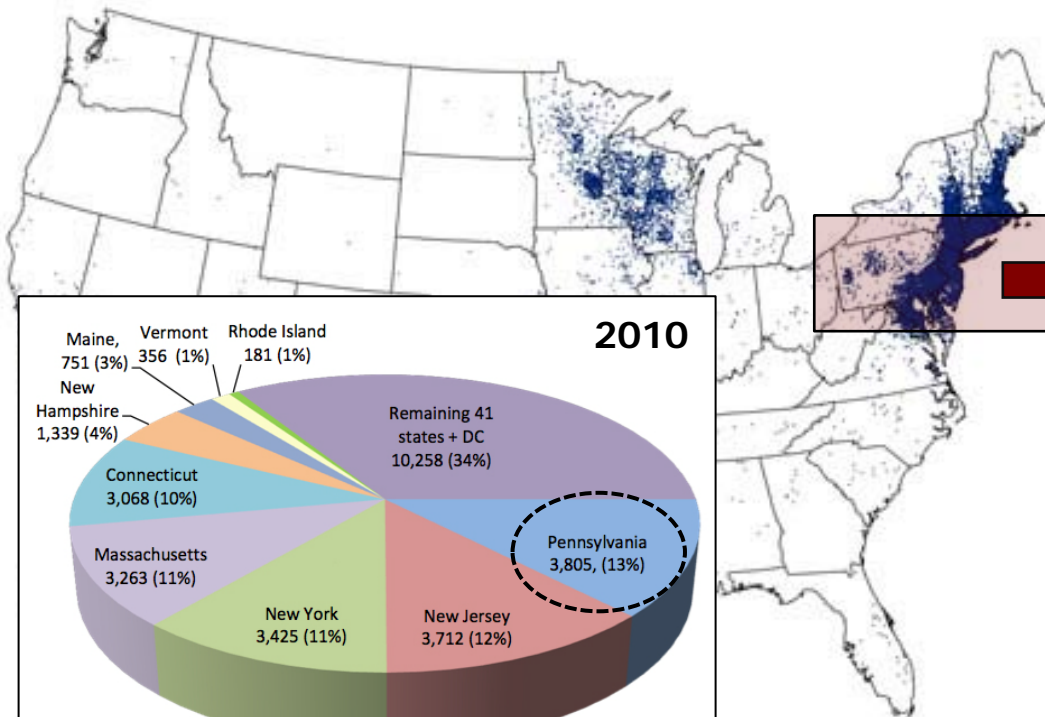


Estimated CDC surveillance criteria reports ~1 out of 10 cases

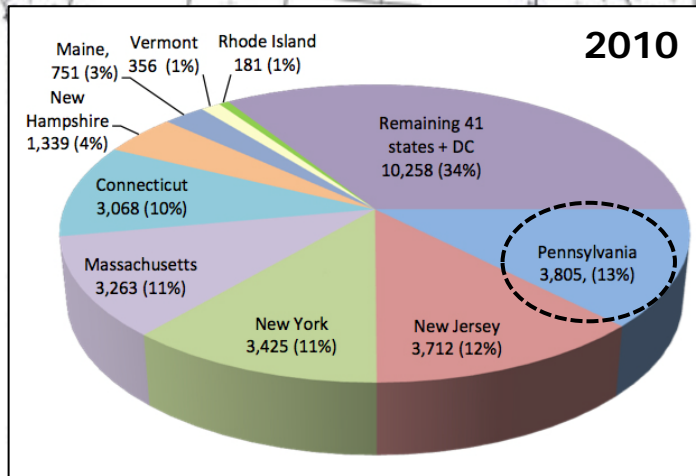
Reported Lyme disease cases in PA



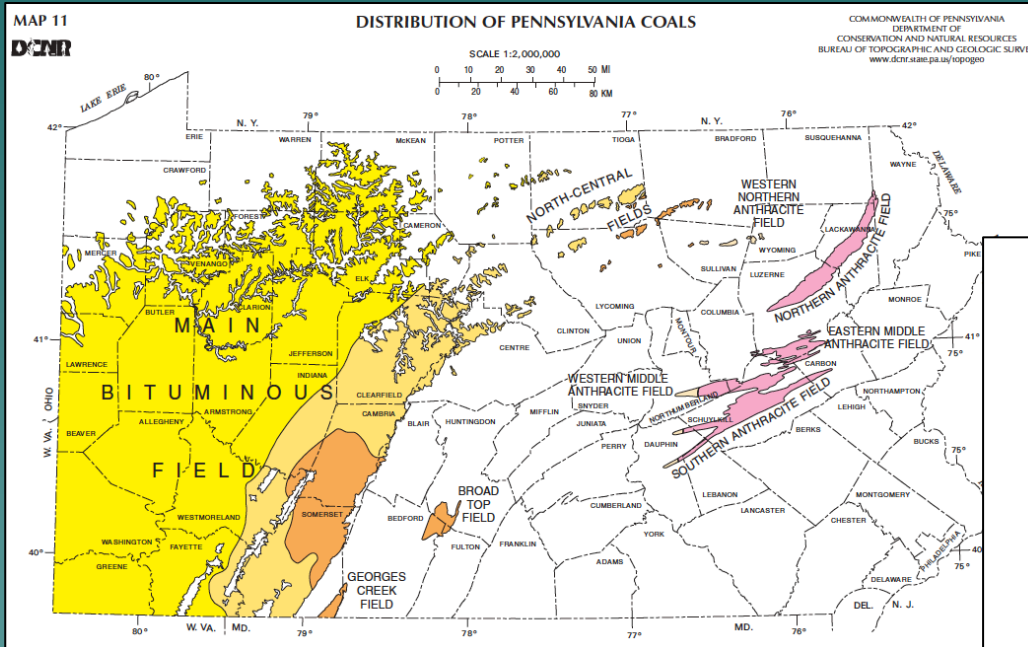
Reported Cases of Lyme Disease -- United States, 2006



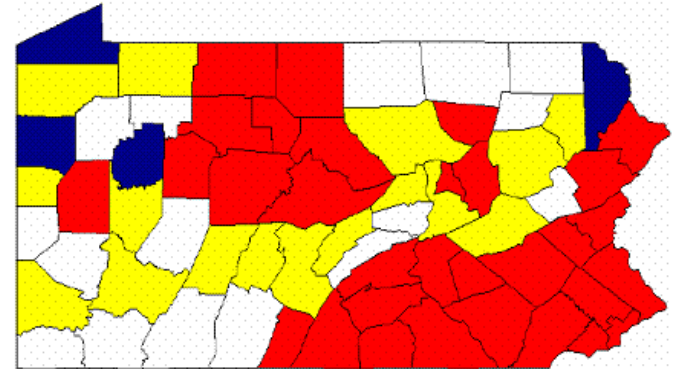
States, 2010



PA coal regions and Lyme disease risk

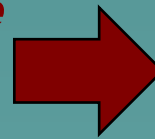


Lyme disease risk classifications

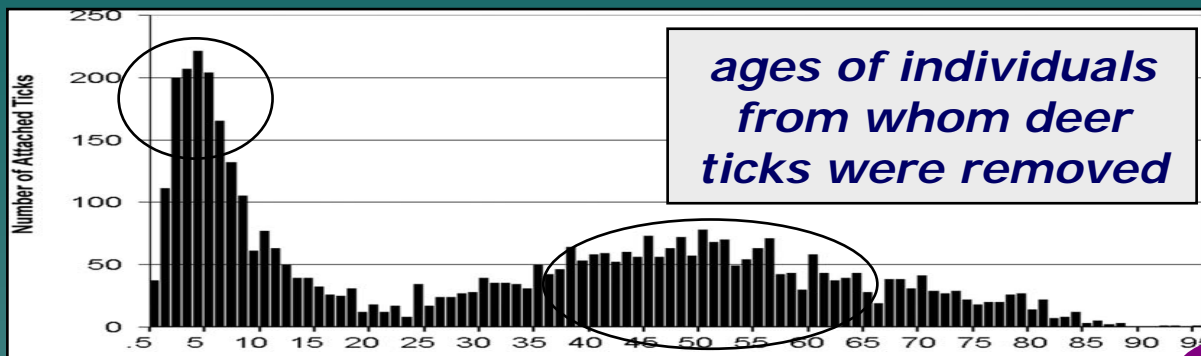


None Low Moderate High

Accuracy? If a physician doesn't think there is Lyme disease in the area, it is not looked for, and therefore, it is not diagnosed nor reported, so there is no risk.



Who is most at risk?



*children/teenagers:
>60% of yearly cases*

outdoor adult population



Anyone who works in the field!

Lyme disease symptoms



- *Possibly* a rash
- Fatigue
- Migrating musculoskeletal pain
- Neurologic symptoms

headache & stiff neck

thinking, memory, & concentration problems

confusion

unable to sleep

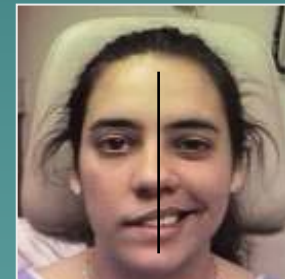
sensitivity to noise

facial palsy, etc.

- **Mood and behavioral symptoms**

depression, anxiety, panic attacks, delusion, aggression,

altered judgment, diminished decision-making capabilities, etc.



Bell's palsy

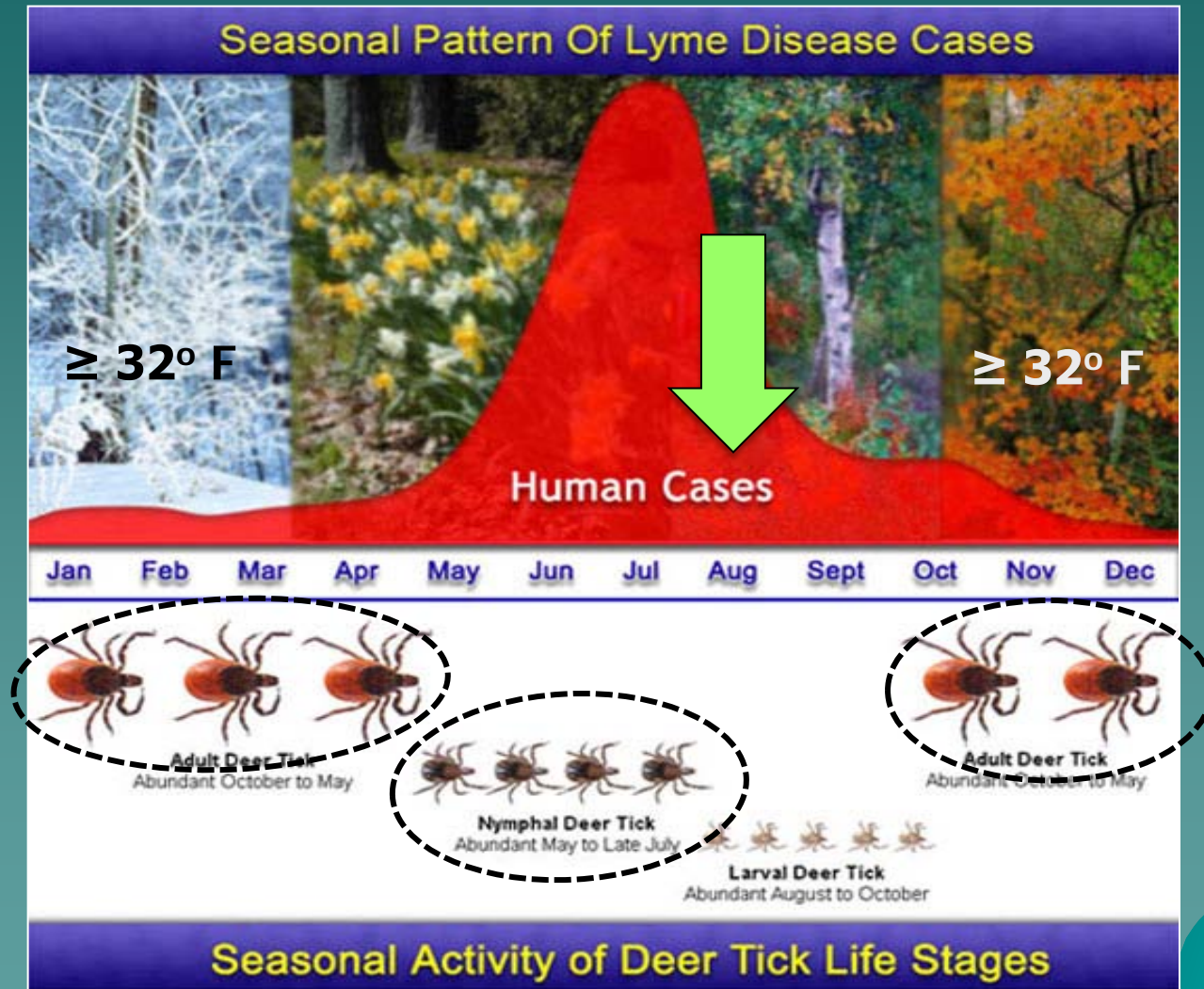
Deer ticks: seasonal occurrence



*deer tick nymph
poppy seed size!*



Deer ticks & Lyme disease



Additional ticks able to transmit coinfections

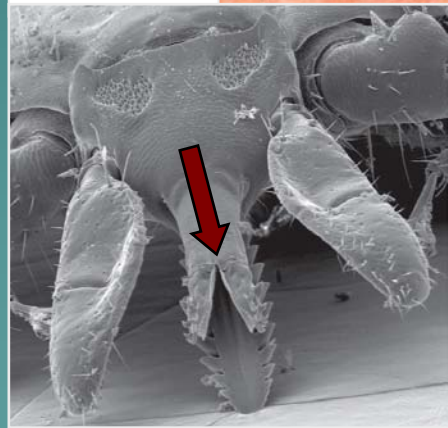
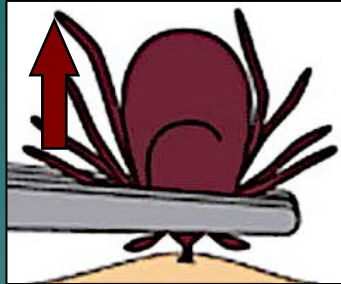
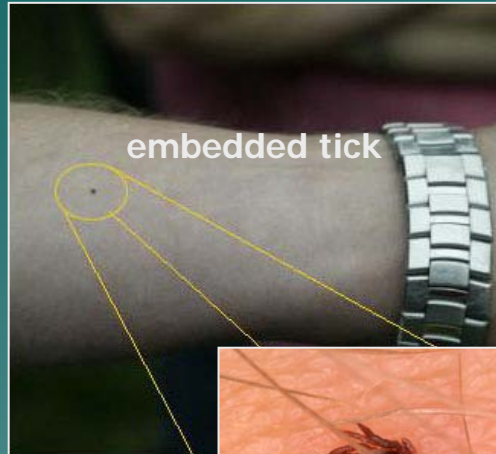


American
dog tick



Female Lone
Star tick

If you find an embedded tick



- Remove it **promptly** using clean tweezers or tick removal tool
- Secure tick close to skin
- Slowly and steadily pull upward until tick releases
- Disinfect bite area
- **Consider prophylactic abx**
- **Never**... use alcohol, Vaseline, soap, match, etc. May cause release of salivary fluids and disease-causing microbes!
- **Save tick to show physician**
- **IGeneX.com** for tick testing

An important question

How long must an infected deer tick be attached for transmission of LD infection?

Research literature with mice: 24-36 hours

Reality: *Difficult in most cases to determine the length of time from bite to detection, if detected!*

Protection practices



Caution: high risks

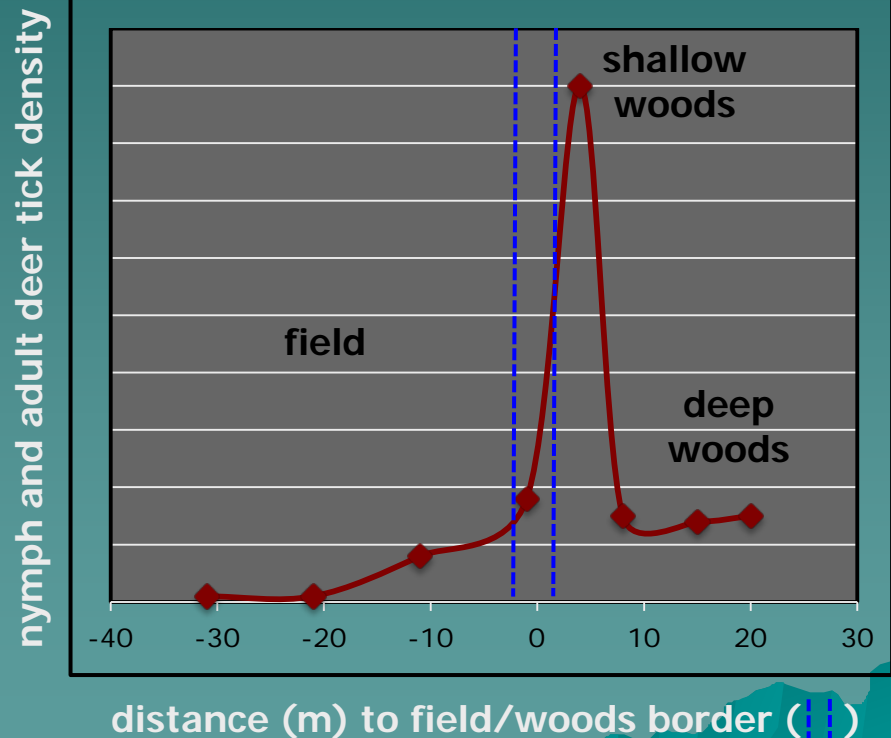
leaf litter...nymphs

tall grass...nymphs/adults

deer paths...nymphs/adults

logs/stone walls...mice/ticks

*Field/woods border
& shallow woods*



Protection practices



Wear light colors:

*long pants, long-sleeved shirt,
hat, tight weave socks over cuffs*



Protection practices



Use repellents on all exposed skin & clothing:



20% DEET
20% picaridin
BioUD
IR3535



Protection practices



Treat all outdoor clothing & boots with permethrin (not on skin)



spray clothing outdoors until well moisten, dry, wear, effective ~6 weeks



Protection practices



Commercial Insect Shield™ clothing (Orvis, REI, Exofficio, etc.)

permethrin pre-treated outdoor apparel, effective 70 washes



Protection practices



During and after being in the field...

Check for ticks

on clothes

at hairline

in hair

*where clothes fit tightly
(waistline)*



Shower immediately!

Keep outdoor clothes out of the home!

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Meetings - Free and Open to the Public

March 21, 2012 - Wednesday - LDASEPA **next Regular Meeting**

7-9 PM at our regular location, the Kennett Friends Meeting.

250 North Union Street, Kennett Square, PA 19348

7:00 to 9:00 PM [Map and Directions =>](#)

Program: **Ron Hamlen, Ph.D.**, LDASEPA VP and Science advisor will be discussing "Prevention" ways in which you can reduce the risk of getting Lyme and/or other tick-borne diseases. Personal protection and ways to reduce the risk on your property will be covered. [about Ron Hamlen =>](#)

Ann Corson, MD's slide presentations are available on-line [here =>](#), including her latest presentation at LDASEPA on February 15, 2012

The IDSA Lyme Disease Guidelines are out of date, but they may **not** be removed as required. **Please sign the petition to request that the National Guidelines Clearinghouse remove the outdated IDSA guidelines.** The petition is sponsored by Lymedisease.org (formerly CALDA) publisher of the Lyme Times. The LDASEPA supports this petition. [Sign here now =>](#)

May 19, 2012 - save the date for a "Lyme Walk" to benefit the LDASEPA [Details =>](#)

Special presentations by LDASEPA Board members, Lyme Literate Doctors and

Join us to support our mission. To Donate or use our United Way numbers [Details =>](#)



[Our Booklet 5th Ed =>](#)
and
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Thank you

Remember: Every time you are in the field, it is essential to use repellents and permethrin-treated clothing!

