

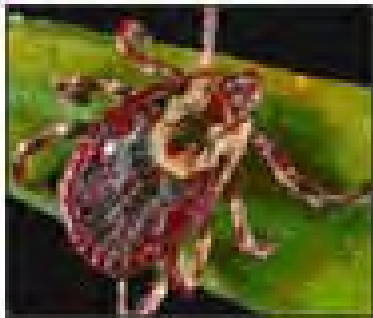
[Click here for pictures and slides](#)





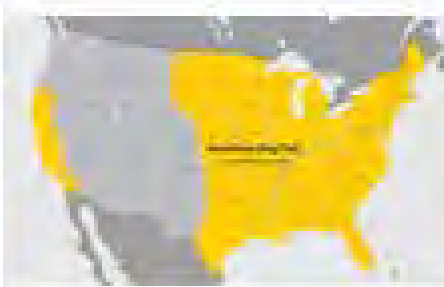
# What is Lyme disease?

- Most common tick-borne disease in Maryland and the U.S.
- Caused by bacterium *Borrelia burgdorferi*
- Transmitted by bite of infected black-legged (deer) tick
- Early symptoms include rash, fever, headache, and fatigue
- Incubation period is 7-14 days (range 3-30 days)
- If untreated can involve heart, nervous system (brain), and joints



American dog tick

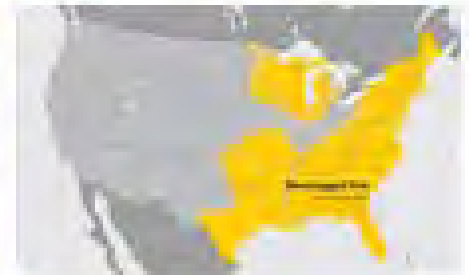
Rocky Mountain spotted fever,  
tularemia



Blacklegged tick "deer tick"

anaplasmosis, Lyme disease

Babesiosis



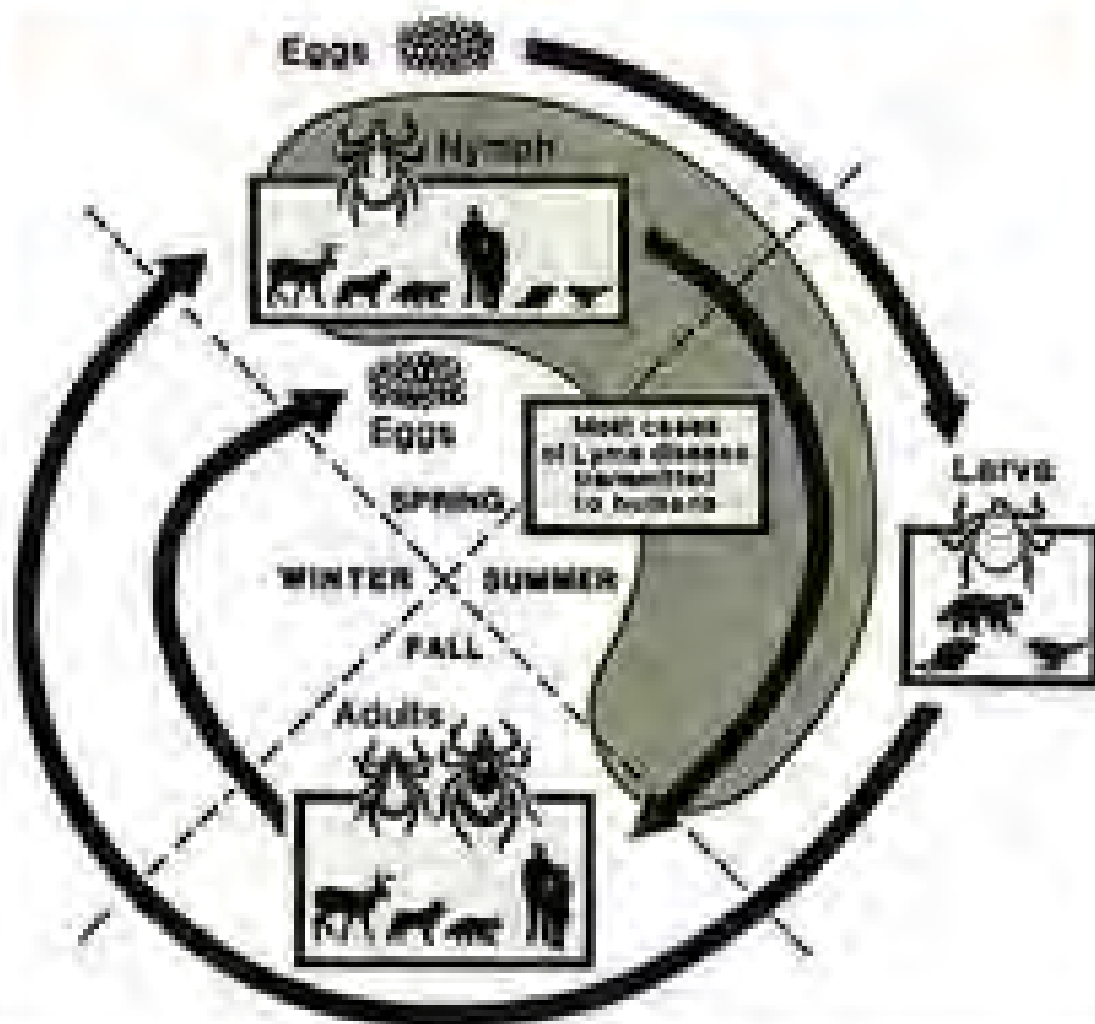
Lone star tick

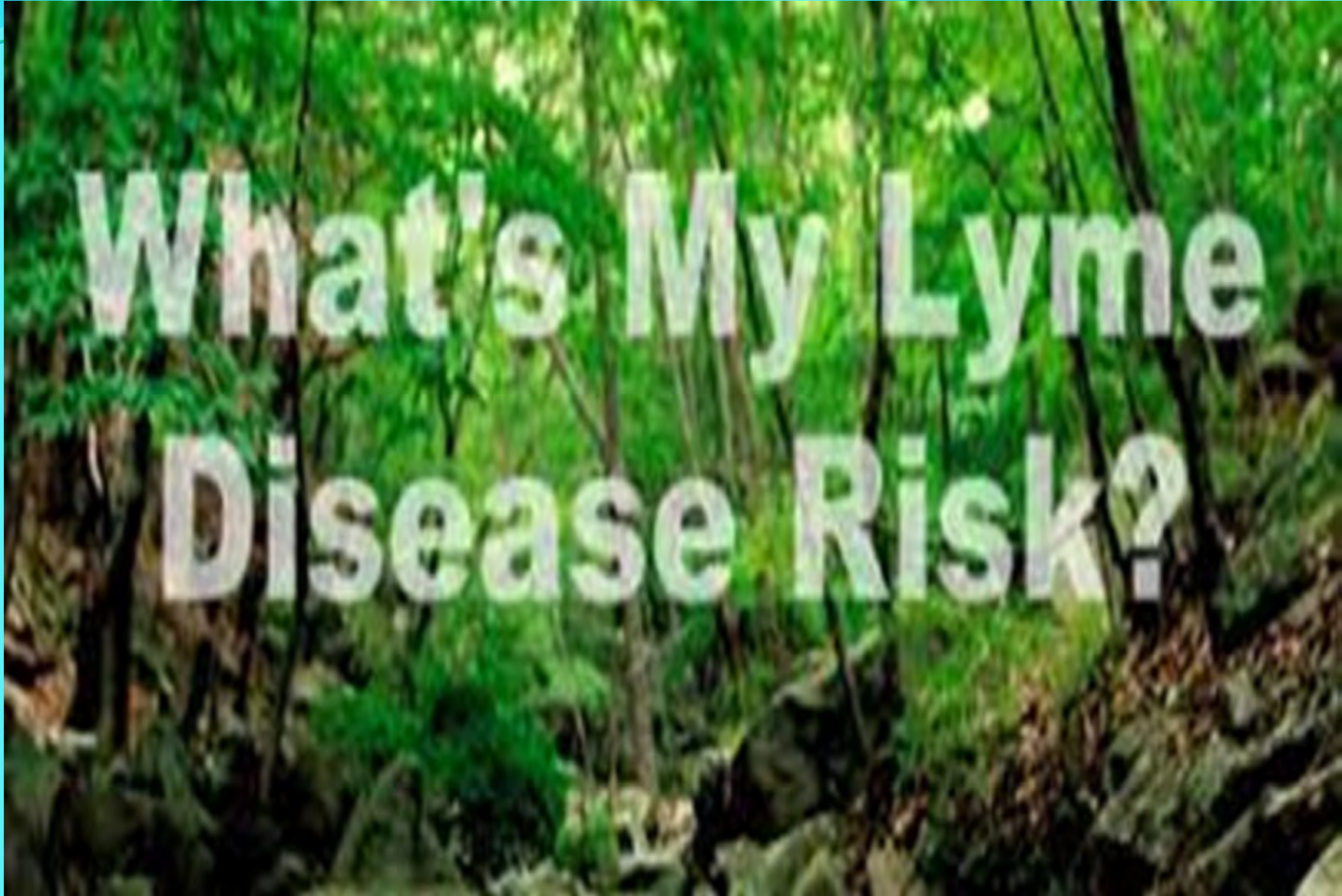
Ehrlichiosis, Tularemia, STARJ

(Southern tick-associated rash illness)



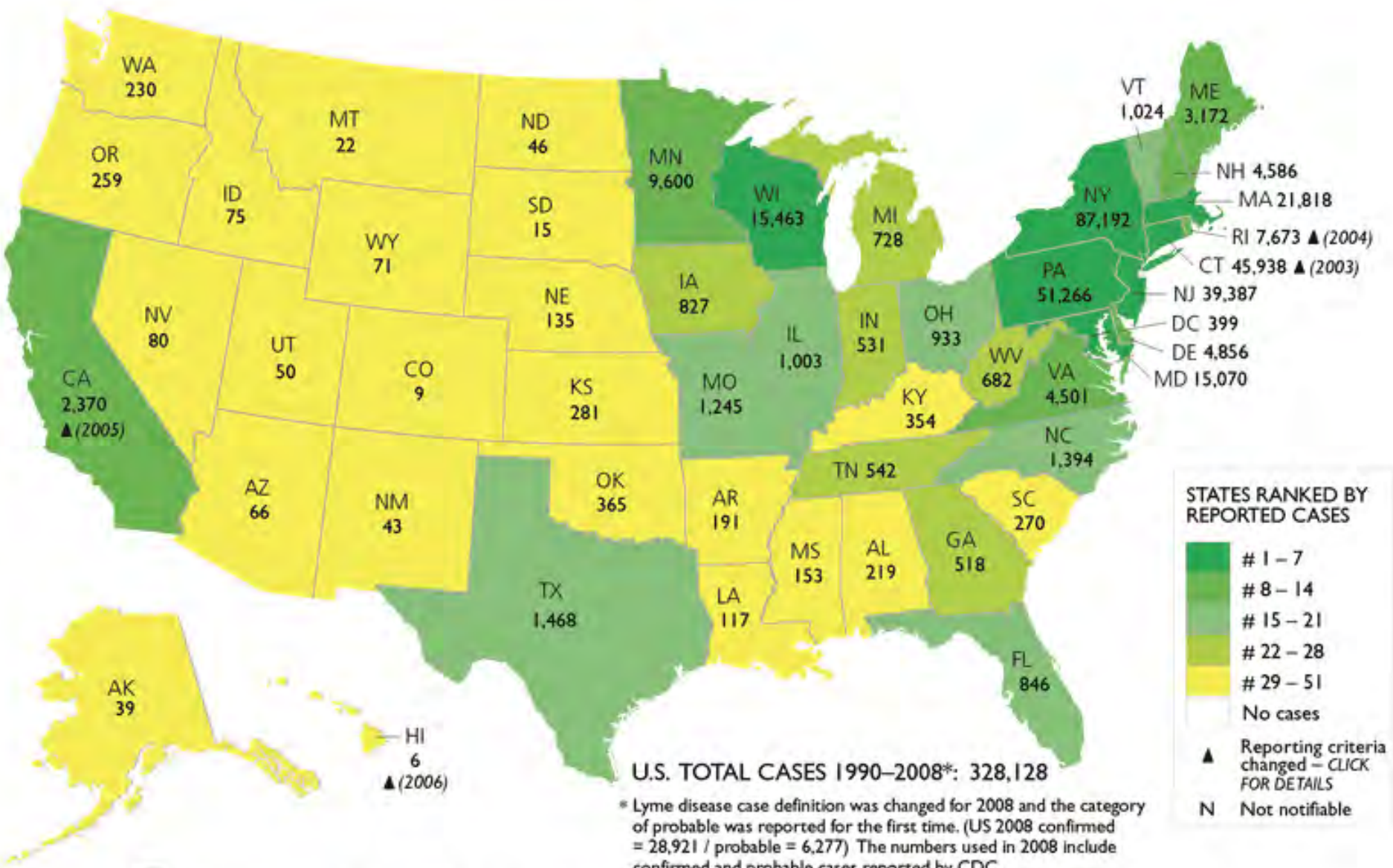
# Life Cycle Of Lyme Disease Ticks





# What's My Lyme Disease Risk?





**U.S. TOTAL CASES 1990–2008\*: 328,128**

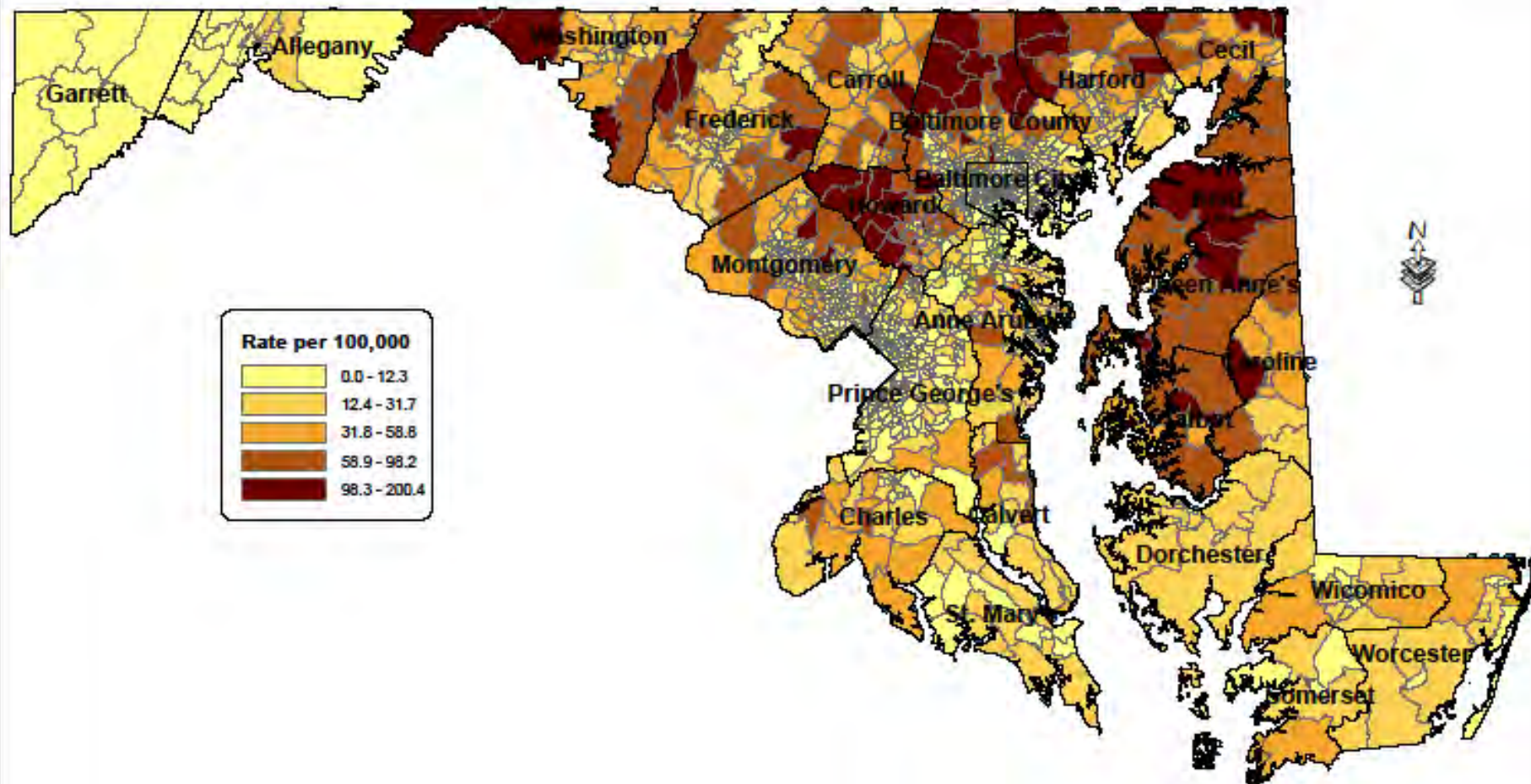
\* Lyme disease case definition was changed for 2008 and the category of probable was reported for the first time. (US 2008 confirmed = 28,921 / probable = 6,277) The numbers used in 2008 include confirmed and probable cases reported by CDC.

Note: According to CDC only 10% of Lyme disease cases that meet the case definition are reported, meaning if 10,000 cases are reported, 100,000 cases occurred. This data does not include all the cases that fall outside the stringent surveillance case definition.



Source: Data compiled from CDC pub. data (MMWR) ©2009 Lyme Disease Association, Inc.

# Average Annual Incidence Rate of Confirmed Lyme Disease Cases per 100,000 by Census Tract - Maryland 2007-2011



Source: The National Electronic Disease Surveillance System (NEDSS)

# Potential for Transmission

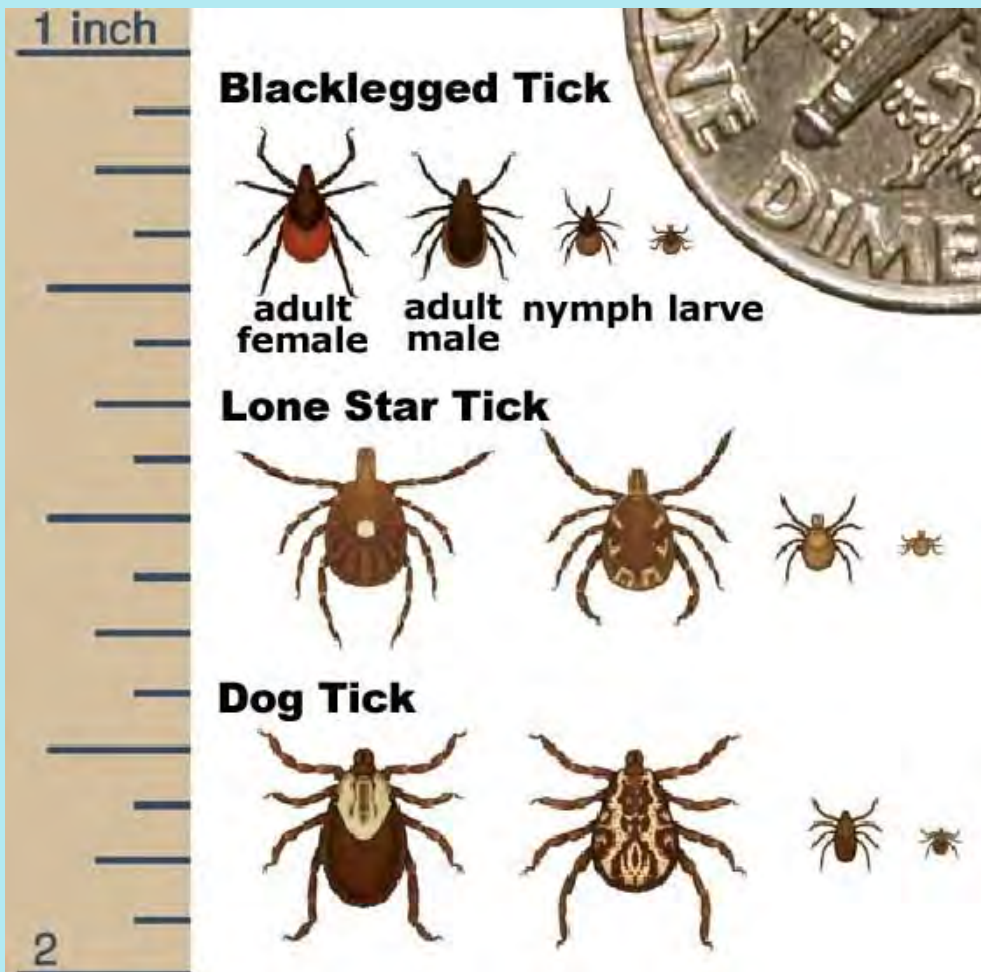
Hours That Tick Was Attached	Percent Chance of Lyme Transmission
24	0%
48	12%
72	79%
96	94%



# TICKS

Compared to dime

Engorged with blood



# Get Out the Magnifying Glass



Deer tick nymph

# Lyme Prophylaxis

- Only recommended for age 8 and up
- Only for deer (black legged) tick
- Only if tick has been attached at least 24-36 hours
- Administer within 72 hours of removing the tick
- Single dose of doxycycline 4 mg/ kg up to 200 mg orally





# Stages of Lyme disease

- I. Early Localized (Acute) Stage
- II. Early Disseminated Stage (days to weeks after tick bite)
- III. Late Disseminated Stage (months to years after tick bite)

(Wormser, et al., 2006)





# Early Disseminated Stage (days to weeks after tick bite)

## Symptoms/Treatment

- Additional rashes not at site of bite
- Pain and swelling in large joints (especially knees)
- Headache/stiff neck
- Dizziness
- Bell's Palsy
- Ceftriaxone 2g intravenous/day for 10-28 days



# Late Disseminated Stage (months to years after tick bite)



- Arthritis (pain/swelling) of one or two large joints
- Neurological symptoms (disorientation, confusion, dizziness, short-term memory loss, inability to concentrate, finish sentences or follow conversations)
- Numbness in arms/hands or legs/feet

(ALDF, 2006)



# **PREVENT LYME DISEASE!**

- **WEAR REPELLENT**
- **CHECK FOR TICKS DAILY**
- **SHOWER SOON AFTER  
BEING OUTDOORS**
- **CALL YOUR DOCTOR IF YOU  
GET A FEVER OR RASH**



For more information:  
[www.cdc.gov](http://www.cdc.gov)



# Key Points to Remember

- Maryland is endemic for Lyme disease
- Lyme very responsive to antibiotics early on
- **Prevention** and **early detection** are keys
- Lyme disease in early stage may mimic the flu
- Watch for rash or other symptoms
- Inspect for ticks frequently in summer months
- Use insect repellent with DEET
- Visit your doctor early if concerns



**Public Health**  
Prevent. Promote. Protect.

