



# Tickborne Illness in Southwest Virginia

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# Tickborne Illness in VA



- Lyme
- Rocky Mountain Spotted Fever
- Tularemia
- Ehrlichiosis
- Anaplasmosis
- Southern Tick-Associated Rash Illness
- Babesiosis
- Alpha Gal (Red Meat Allergy)

Rash ?



Stroke?

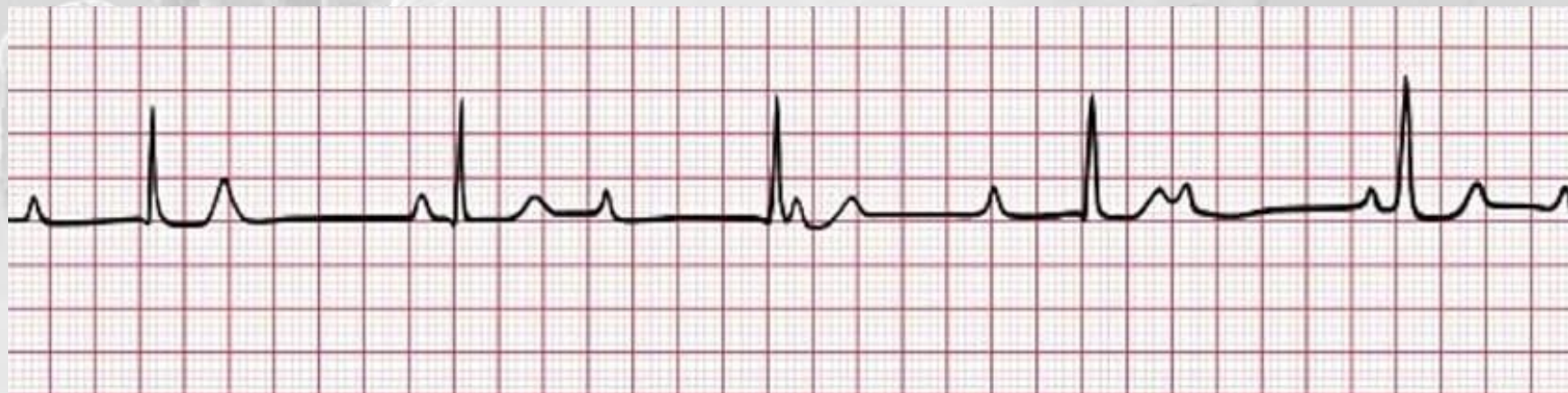


# Flu?



wiki How to Treat Meningitis (Spinal Meningitis)

# Syncope?



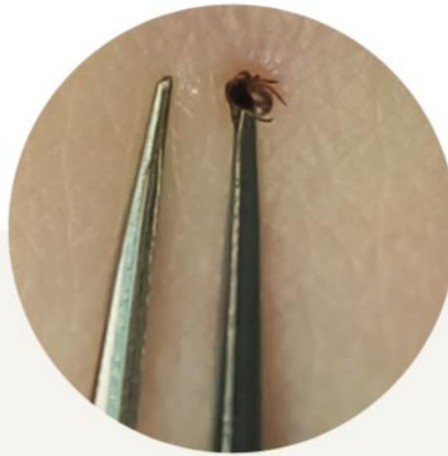
Knee pain?



# Tick Bite or Removal?



Embedded tick



Tick removal, step 1

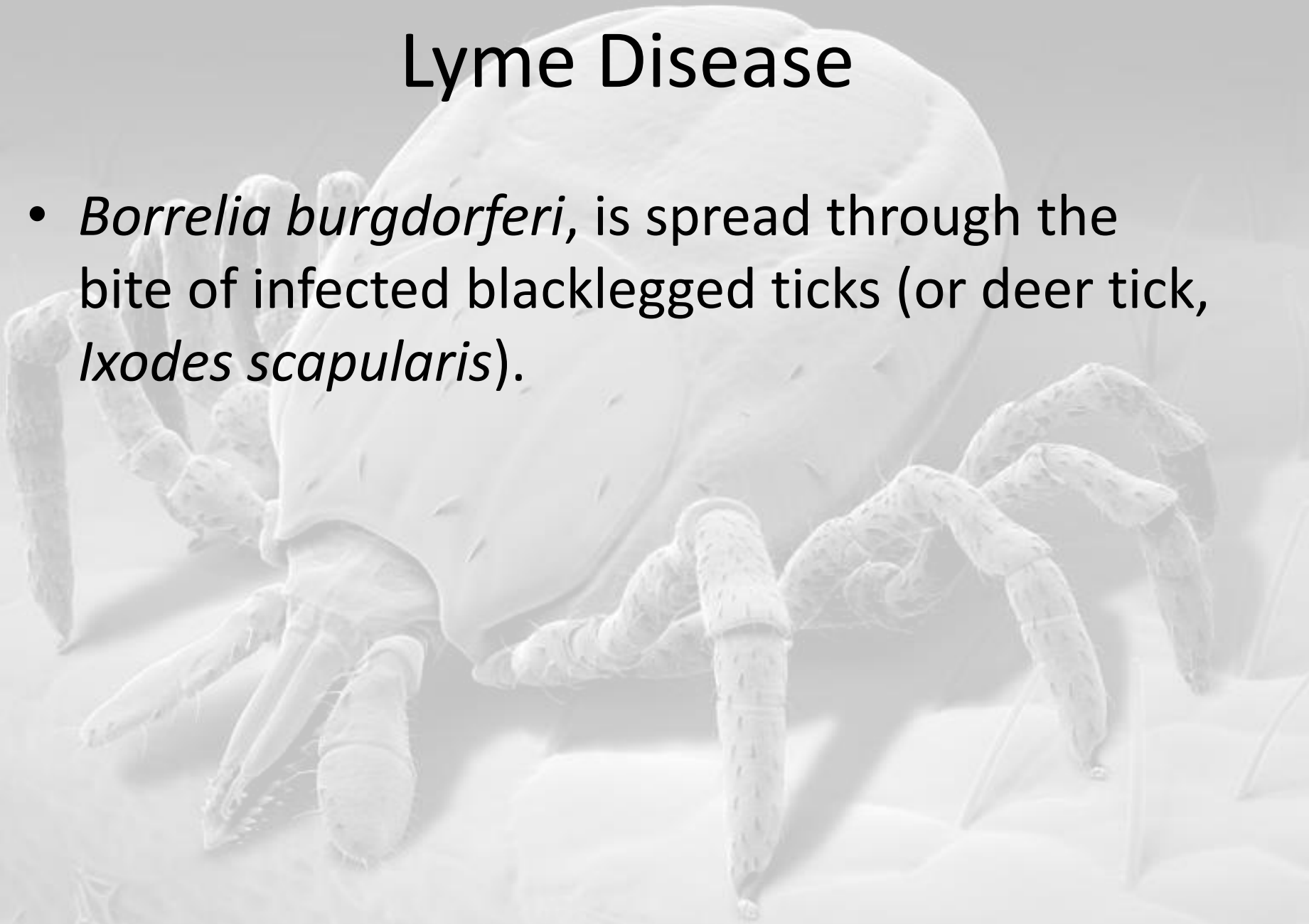


Tick removal, step 2



# Lyme Disease

- *Borrelia burgdorferi*, is spread through the bite of infected blacklegged ticks (or deer tick, *Ixodes scapularis*).



# Early Localized



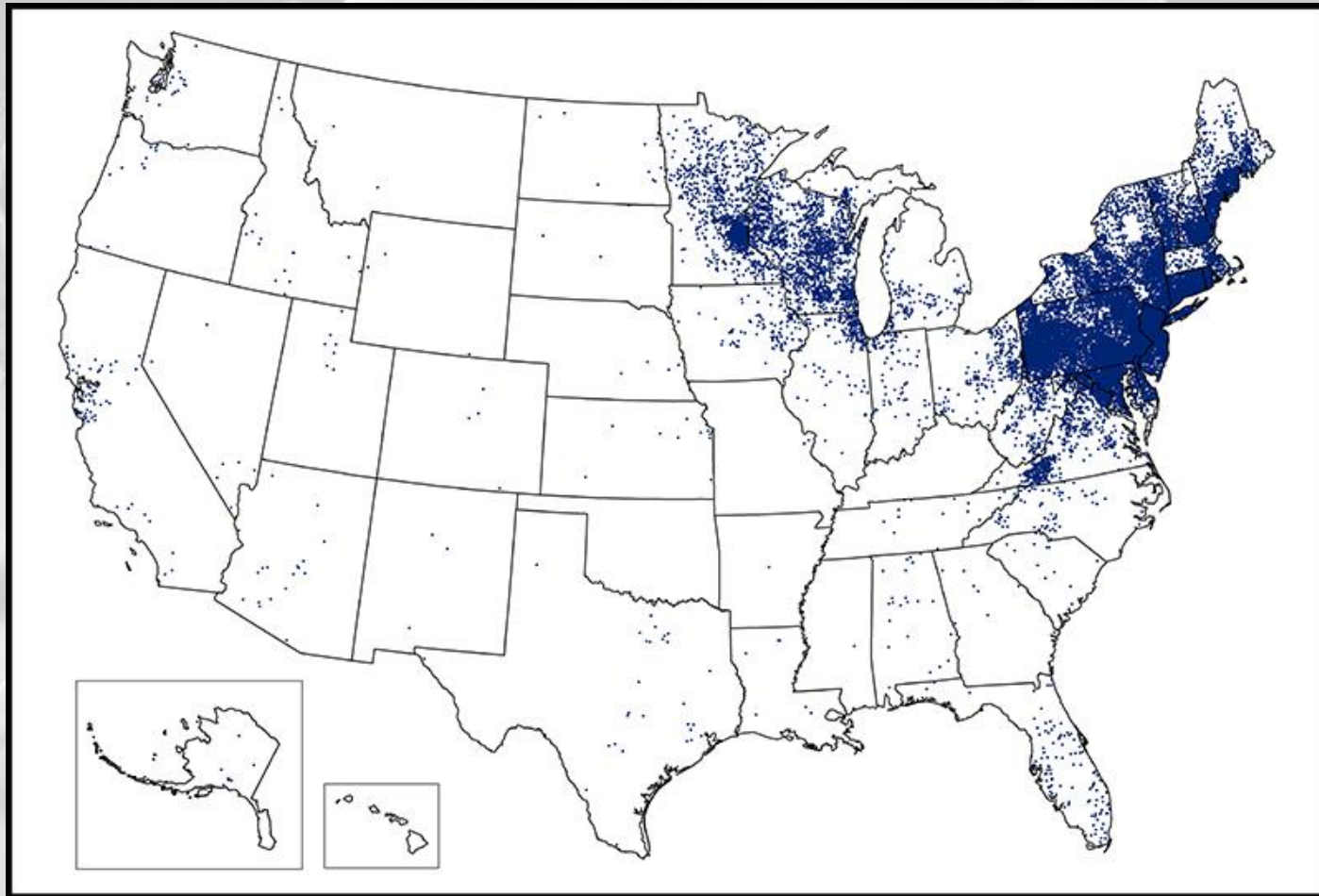
- Within 30 days of bite
- Erythema migrans at site 7-14 days after tick removal
- Fatigue, myalgias, arthralgias, headache, fever, chills, neck stiffness

# Disseminated Infection



- Early:
  - Weeks to months after bite
  - Musculoskeletal symptoms
  - Neurologic symptoms
  - Cardiac Symptoms
- Late:
  - Months to years with latency
  - Musculoskeletal
  - Neurologic symptoms

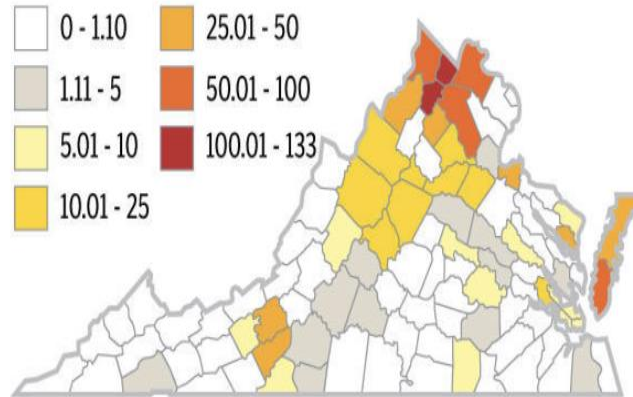
# 2017 Reported Lyme Cases



<https://www.cdc.gov/lyme/datasurveillance/maps-recent.html>

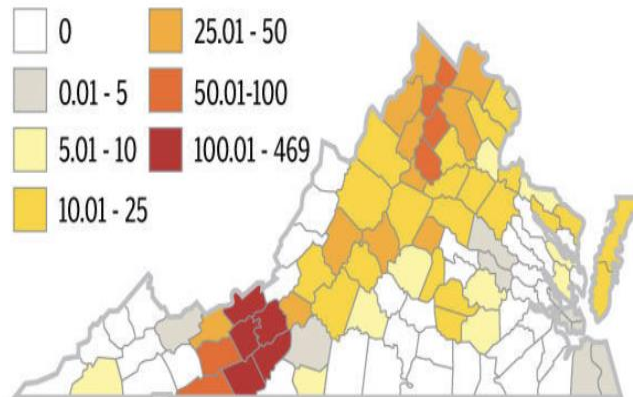
## 2008 Virginia Lyme disease

New cases per 100,000 population



## 2016 Virginia Lyme disease

New cases per 100,000 population



# Regional Treatment



- 2013-2015 Retrospective chart review within Carilion Clinic via EPIC
  - “Lyme” or “tick bite”
- 186 cases with clinical evidence of Lyme
  - 2 (1%) not prescribed antibiotics
  - 17 (9%) prescribed inappropriate antibiotics

# Challenges:



- Masquerades as other diseases
- No recollection of tick bite
- Tick identification
- Regional disparities
- No rapid testing
- Tests often negative in first week of symptoms
- Limited follow up

Questions?

