

- Spirochete bacterium
- *Bacteria (Borrelia burgdorferi)*

- Zoonotic Disease
- Black legged ticks/deer ticks (*Ixodes scapularis*)
- Hosts of bacteria: Rodents, birds humans



- Tick's feeding tube
- Once the tick feeds on the host, the bacterium migrates from the tick's midgut to its salivary glands

- Infected tick attaches to host
- Transmits bacteria through tick bite
- Once the tick feeds on the host, the bacterium migrates from the tick's midgut to its salivary glands



- Bacteria enters through the skin then the bloodstream from an infected tick bite
- On Humans, ticks are commonly found:
 - o Underarms
 - o Groin
 - o behind the knees
 - o scalp,
 - o waistline

- Being in heavily wooded, grassy and tick-dense areas outdoors
- Living/working in Lyme endemic areas
 - o Southern Canada



Infectious Agent

Diagnosis

- Early testing/diagnosis
 - o Serologic analysis
 - o erythema migrans lesion



Reservoir

Reporting

- Surveilling cases
- Tracking number of human cases
- Identifying areas where people are at high risk for contracting Lyme disease

Portal of Exit

High Risk Conditions to Encounter Ticks

- Higher risk in Spring and Fall
- Be cautious when in:
 - o Heavily wooded, tall grassy areas
 - o Temperatures above freezing



Mode of Transmission

Preventing Tick Bites

- Insect repellent (containing DEET, picaridin, or oil of lemon)
- tick-prevention products for your pets
- Wear long, light-coloured clothing to make ticks easier to spot

Portal of Entry

Checking For Ticks

- Perform thorough tick checks on yourself, children, and pets after being outdoors.
- Shower within two hours of returning indoors to wash off any unattached ticks.
- Ticks must remain attached for over 24 hours to effectively transmit the bacterium.



Susceptible Hosts

Education & Treatment

- Public health campaigns to teach high-risk groups about prevention, early symptoms, and proper tick removal.
- Encourage individuals to seek medical advice if a tick bite occurs and flu-like symptoms or rashes develop.
 - o Treated with antibiotics
- Stay on trails and avoid brushing against grass, shrubs, or leaf litter

Chain of Infection: Lyme Disease

References

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