



# EMPLOYEE RIGHT-TO-KNOW

Preventing  
Tick-Borne  
Illness



# LEARNING OBJECTIVES



How tick-borne illnesses are transmitted



Common tick-borne illnesses in Minnesota



Areas of highest risk in Minnesota



Options for preventing tick bites



Best practices for removing ticks

# TICK-BORNE ILLNESS TRANSMISSION

Tick-borne illness is transmitted by the bite of an infected tick. The tick must be embedded in your skin for at least 12 hours and typically 24 or more hours in order to transmit disease.

## Exposure Risks

- Most people are exposed to infected ticks from May – July in wooded, brushy habitat
- Both the adult female and nymph carry disease



# OTHER TICK-BORNE ILLNESS EXPOSURE RISKS

↵ Vehicles

↶ Clothing  
and Shoes

↷ Equipment



# TICK-BORNE ILLNESS IN MINNESOTA: LYME DISEASE

Lyme disease is transmitted by a bite from an infected blacklegged tick (deer tick) carrying the Lyme bacterium.  
**The infected tick must be attached for 24-48 hours to transmit the disease.**

Within 3 to 30 days after removing an embedded tick, look for:

**Bulls-eye shaped rash  
or multiple rashes**

**Fever**

**Chills**

**Headache**

**Muscle and joint pain**

**Fatigue**



# TICK-BORNE ILLNESS IN MINNESOTA: LYME DISEASE

Other Lyme disease symptoms that may appear between 3 and 30 days of exposure include:

**Facial paralysis on  
one side**

**Dizziness and heart  
palpitations**

**Stiff neck**

**Persistent weakness  
and fatigue**

**Irregular heartbeat**

**Weakness, numbness  
or pain in arms and  
legs**



# TICK-BORNE ILLNESS IN MINNESOTA: ANAPLASMOSIS

Anaplasmosis is transmitted by a bite from an infected blacklegged tick.

**The infected tick must be attached for 12 to 24 hours to transmit the disease.**

Within 1 to 3 weeks after removing an embedded tick, look for:

**Fever above 102  
degrees**

**Muscle aches**

**Severe headache**

**Chills and shaking**



# TICK-BORNE ILLNESS IN MINNESOTA: ANAPLASMOSIS

Less frequent symptoms of Anaplasmosis include:

<b>Nausea</b>	<b>Vomiting</b>
<b>Loss of appetite</b>	<b>Weight loss</b>
<b>Abdominal pain</b>	<b>Aching joints</b>
<b>Change in mental state</b>	<b>Diarrhea</b>

 TickEncounter Resource Center *Ixodes scapularis* (Blacklegged ticks or Deer ticks)



**LARVA**



**NYMPH**



**ADULT MALE**



**ADULT FEMALE**



# TICK-BORNE ILLNESS IN MINNESOTA: BABESIOSIS

Babesiosis is transmitted by a bite from an infected blacklegged tick.

**The infected tick must be attached for 24 to 36 hours to transmit the disease.**

Within 1 to 3 weeks after removing an embedded tick, look for:

**Fever**

**Headache**

**Loss of appetite**

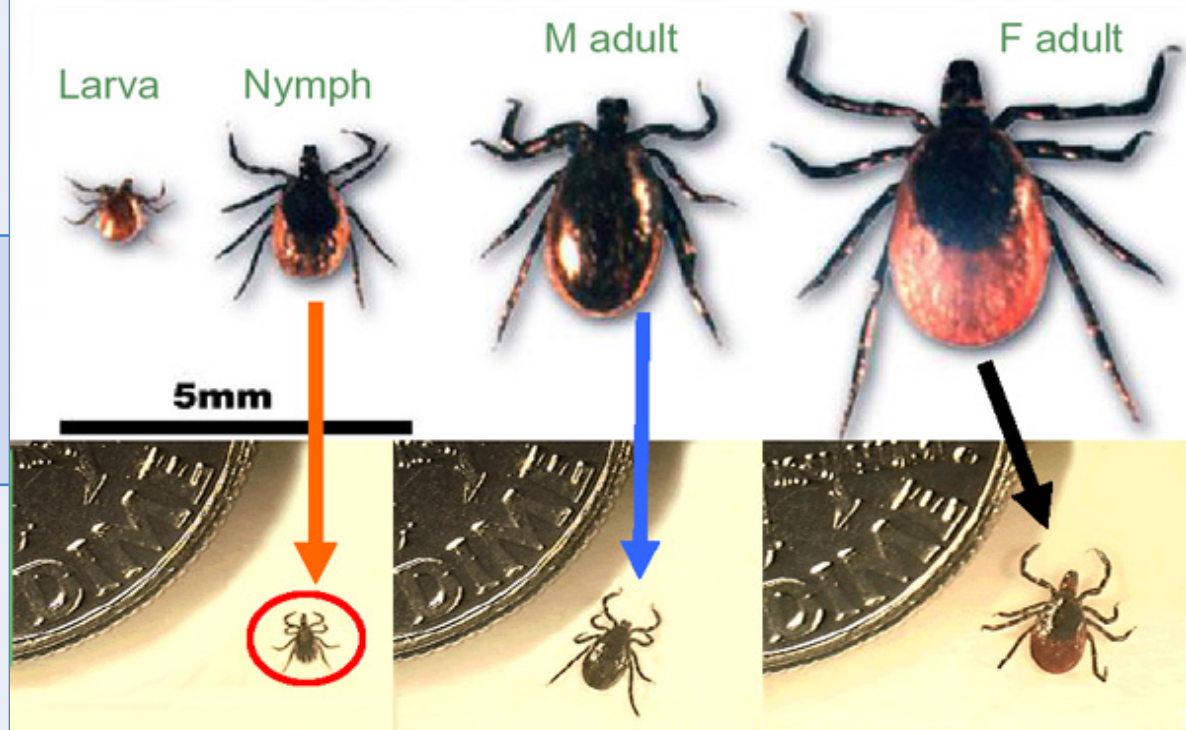
**General malaise**



# TICK-BORNE ILLNESS IN MINNESOTA: BABESIOSIS

Other symptoms of Babesiosis that may appear include:

High fever	Chills
Muscle aches	Nausea
Vomiting	Anemia

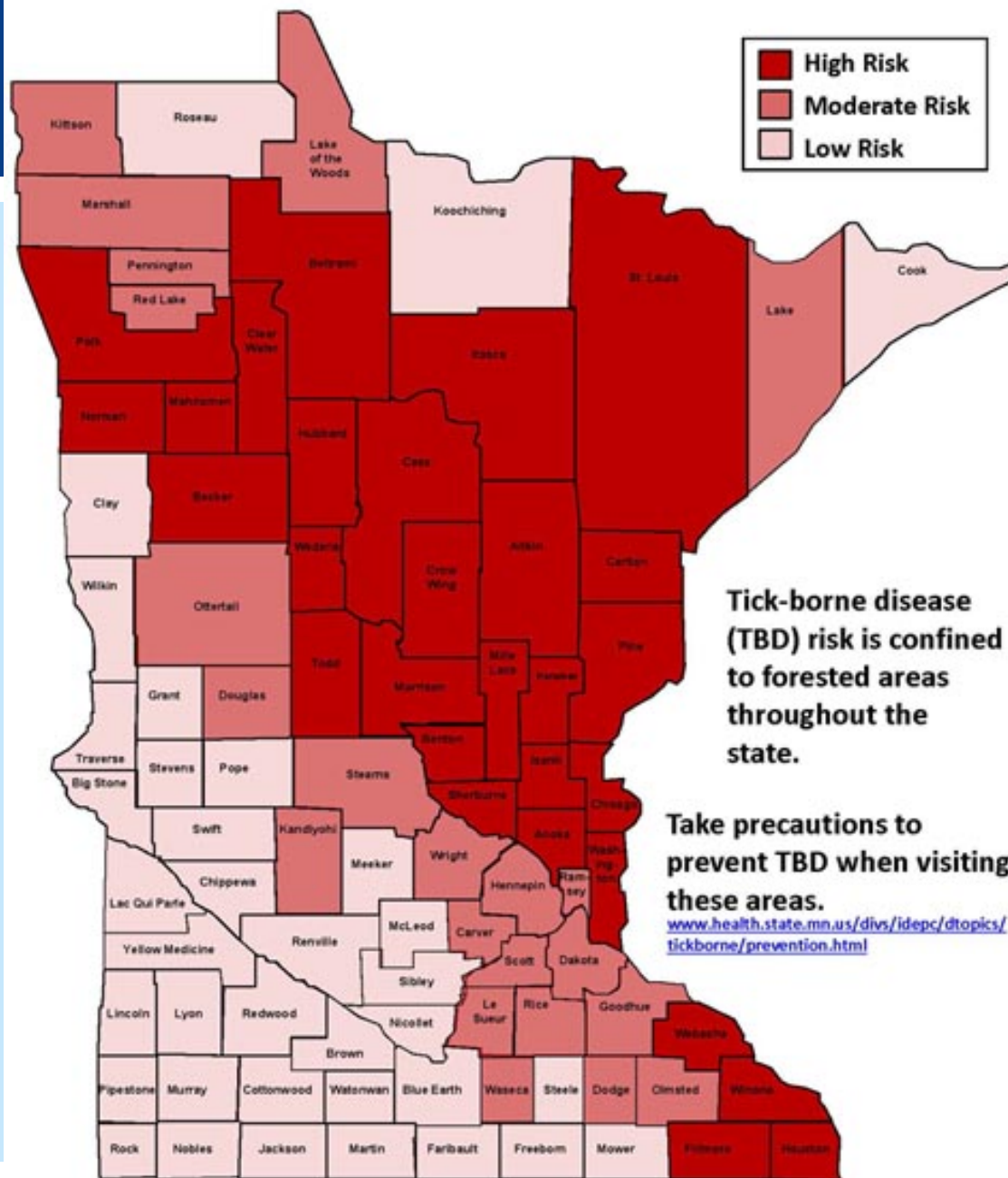


# HIGH RISK COUNTIES IN MINNESOTA

[Click here](#) to view a  
larger version of  
this map on the  
Minnesota  
Department of  
Health website.

## Minnesota Tick-borne Disease Risk\*

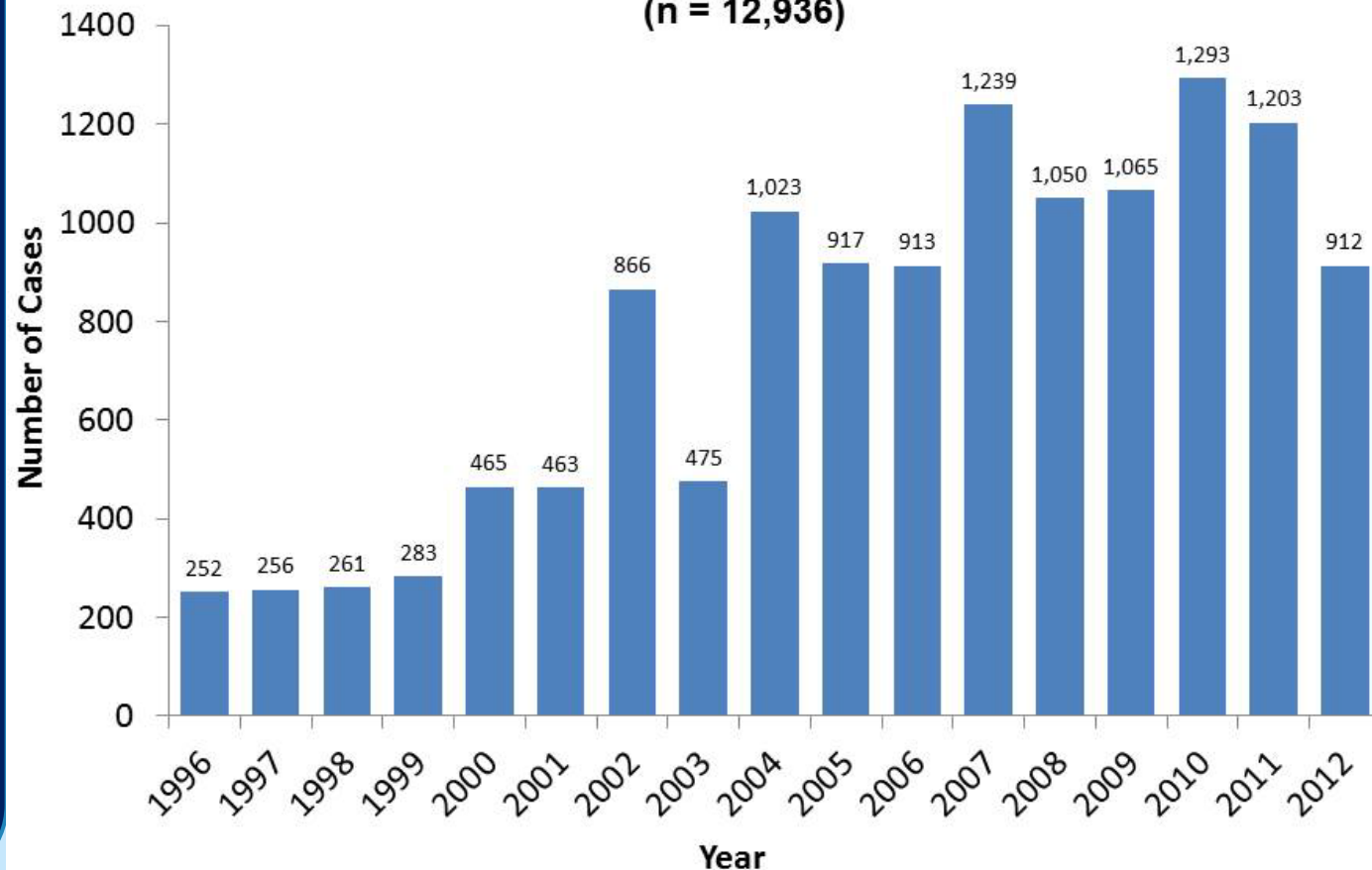
\*Based on average incidence (cases/100,000 population) of Lyme disease and human anaplasmosis cases in Minnesota, 2007-2011



# CASES OF LYME DISEASE IN MINNESOTA

## Reported Cases of Lyme Disease in Minnesota, 1996-2012

(n = 12,936)



[Click here](#)  
to view a  
larger  
version of  
this graph  
on the  
Minnesota  
Department  
of Health  
website.

# TICK BITE PREVENTION MEASURES



Use  
repellent  
on your  
skin



Use  
permethrin  
on your  
clothing



Wrap  
wrists and  
ankles  
with duct  
tape or  
wear tick  
gaiters



Wear light  
colored  
clothing to  
spot ticks  
more  
easily

# AFTER WORKING IN TICK HABITAT



Check your body for ticks immediately after working or recreating outdoors

Take a shower as soon as possible; scrub and towel-off briskly



Check your body daily for ticks when working outdoors in wooded and grassy areas

Report suspected tick-borne illnesses to your supervisors and visit a clinic





# DAILY TICK CHECKS

Stop periodically to check your clothing for crawling ticks and your body for embedded ticks. Promptly remove embedded ticks and clean the wound with antiseptic as soon as possible.

SCALP



EARS



UNDER-  
ARMS



NAVEL



GROIN



BEHIND  
KNEES



BACK



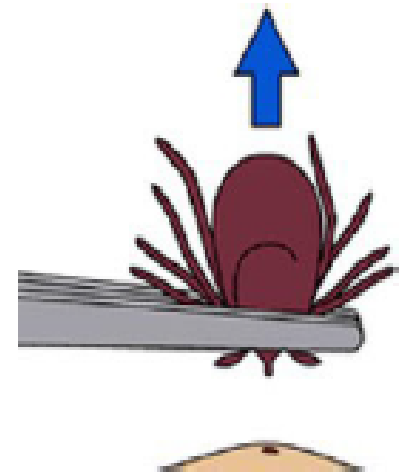
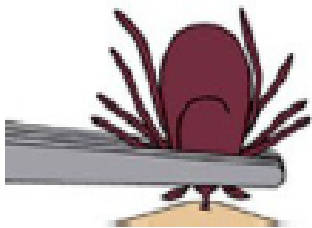
WAIST  
LINE




# BEST PRACTICES FOR REMOVING TICKS

## HOW TO SAFELY REMOVE AN EMBEDDED TICK

1. Grasp the tick close to the skin with a pair of tweezers.
2. Pull the tick outward slowly, gently, and steadily.
3. Don't squeeze the tick.
4. Use antiseptic on the bite.







**DO YOU HAVE  
QUESTIONS ABOUT  
PREVENTING TICK-  
BORNE ILLNESS?**

**ASK YOUR SUPERVISOR  
OR A MEMBER OF THE  
SAFETY PROGRAM  
STAFF**

**Safety and  
Risk  
Supervisor  
651-259-  
5471**

**Safety  
Admin.  
Northwest  
and  
Northeast  
Regions  
218-999-  
7856**

**Safety  
Admin.  
Central  
and  
Southern  
Regions  
651-259-  
5489**