Block the Bite!
A guide to commonly encountered ticks and how to protect yourself and your family

Heather Kopsco, Ph.D.
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Autumn Health Picks
What will we be discussing?

- What are ticks, and why are they potentially dangerous?
- An overview on how to identify a tick vs. not ticks
- Commonly encountered ticks in Illinois and what diseases they may carry
- Tick bite prevention for humans and non-humans alike
- Safe tick removal and next steps
What even are ticks?

- Tiny blood-sucking parasites (arachnids)
- Approximately 900 species worldwide
- Generally 7 major ticks of concern in the U.S.
- Mostly pests of wildlife, but will bite and feed on humans and domestic animals
- Can carry and transmit various diseases that can be harmful or even fatal if not treated promptly
Tick life stages

Example: Blacklegged (deer) tick

1st stage: Egg
- 8 legs
- Size of a sesame seed
- Can spread disease

2nd stage: Larvae
- 6 legs
- Size of the head of a pin
- Emerges from eggs with hundreds to thousands of others
- Generally uninfected

3rd stage: Nymph
- 8 legs
- Size of a poppyseed
- Most dangerous stage – can spread disease

4th stage: Adult male and female
- 8 legs
- Size of a sesame seed
- Males rarely transmit disease
- Females need to feed to support eggs
- Can spread disease
What makes a tick a tick?

- **Scutum (shield):** Part of body or entire? Shape? Pattern?
- **Mouthparts:** Pointed? Short? Long and slender?
- **Festoons (ridges):** Ridges present or absent?
Tick or Schtick?
Tick or schtick?

TICK!
Adult male brown dog tick
Tick or schtick?

SCHTICK!

Spider beetle
Tick or schtick?

TICK!

Larval lone star tick
Tick or schtick?

SCHTICK!

Bed bug
Tick or schtick?

TICK!

Adult female

American dog tick
Can you find the ticks on this muffin?

From: https://www.cdc.gov/ticks/gallery/index.html
Ticks Change Appearance As They Feed

<table>
<thead>
<tr>
<th>Feed time (hours)</th>
<th>0</th>
<th>24</th>
<th>48</th>
<th>72</th>
<th>96</th>
</tr>
</thead>
</table>

[Image of tick sizes at different feed times]
Blacklegged (deer) tick (*Ixodes scapularis*)

**Active Season**
- Spring = Nymphs, Adults
- Summer = Nymphs, Larvae
- Fall = Larvae, Adults
- Winter = Adults

**Transmits:**
- Lyme disease
- Anaplasmosis
- Babesiosis
- Powassan virus
Blacklegged (deer) tick (*Ixodes scapularis*)

White counties = Unobserved

Light blue counties = Reported
(Fewer than 6 individuals observed)

Dark blue counties = Established
(More than six individuals or two life stages observed)
American dog tick
(*Dermacentor variabilis*)

Active Season
- Spring = Adults*
- Summer = Adults*
- Fall = dormant
- Winter = dormant

*Humans and pets rarely encounter larvae or nymphs*

Transmits:
- Rocky Mountain Spotted fever
- Tularemia
- Tick paralysis
American dog tick
(*Dermacentor variabilis*)

White counties = Unobserved

Light blue counties = Reported
(Fewer than 6 individuals observed)

Dark blue counties = Established
(More than six individuals or two life stages observed)
Lone star tick (Amblyomma americanum)

Active Season
- Spring = Adults
- Summer = Nymphs, Adults
- Fall = Larvae
- Winter = dormant

Transmits:
- Ehrlichia
- Alpha-gal red meat allergy (https://www.cdc.gov/ticks/alpha-gal/index.html)
- Rickettsial illnesses

***Lone stars are aggressive biters
Lone star tick
(*Amblyomma americanum*)

White counties = Unobserved

Light blue counties = Reported
(Fewer than 6 individuals observed)

Dark blue counties = Established
(More than six individuals or two
life stages observed)

Illinois Department of Public Health
New arrival!
Gulf coast tick
(*Amblyomma maculatum*)

Active Season (in southern Atlantic range)
- Spring = Adults
- Summer = Adults
- Fall = Adults, Larvae
- Winter = Nymph, Larvae

Transmits:
- *Rickettsia parkeri*
How do I prevent these suckers from biting?
1. Frequent Tick Checks

Check your clothing and body for ticks after being outdoors in grassy, brushy, or wooded areas where ticks live!

CHECK THESE PARTS OF YOUR BODY AND YOUR CHILD'S BODY FOR TICKS:

- IN AND AROUND THE HAIR
- IN AND AROUND THE EARS
- UNDER THE ARMS
- INSIDE BELLY BUTTON
- AROUND THE WAIST
- BETWEEN THE LEGS
- BACK OF THE KNEES
1. Frequent Tick Checks
2. Avoid tick habitat
3. Maintain a tick-unfriendly yard

Tick tubes contain tick-repellent-treated cotton which mice like to use to line their nests.
3. Wear an effective repellent
EPA-registered vs. Unregistered/Minimum Risk

**EPA-registered** – the product and active ingredient have been evaluated for human safety and effectiveness and determined to be safe for use when used according to the product label.

**Unregistered/Minimum risk** – based on previous studies, the active ingredient in the product has been deemed a minimal risk to human health and exempted from needing EPA registration.

However, this also means that the repellent product has likely **NOT** been tested by tick scientists to determine if it actually works to repel ticks or mosquitoes.
## Which Tick Repellent to Choose?

<table>
<thead>
<tr>
<th>Product</th>
<th>Which products contain it?</th>
<th>Where does it come from?</th>
<th>Where do I apply it?</th>
<th>How long does it last?</th>
<th>EPA-Registered</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEET</td>
<td>Cutter, Off!, Sawyer, Jungle Juice</td>
<td>Synthetic insecticide</td>
<td>Skin or Clothing</td>
<td>Up to 8 hours</td>
<td>Yes</td>
</tr>
<tr>
<td>LIPODEET</td>
<td>Sawyer Premium Ultra 30 Lotion</td>
<td>Synthetic insecticide</td>
<td>Skin</td>
<td>Up to 11 hours</td>
<td>Yes</td>
</tr>
<tr>
<td>Permethrin</td>
<td>Sawyer, Repel</td>
<td>Synthetic chrysanthemum flower derivative</td>
<td>Clothing only</td>
<td>Repellency wears off quickly; Kills ticks on contact for up to 4 weeks</td>
<td>Yes</td>
</tr>
<tr>
<td>Picaridin</td>
<td>Morpel 220, SS220, Cutter Advanced; Skin-So-Soft Bug Guard Plus</td>
<td>Synthetic black pepper</td>
<td>Skin</td>
<td>Up to 4 hours against lone star ticks; Only up to 1 hour against deer ticks</td>
<td>Yes</td>
</tr>
<tr>
<td>IR 3535</td>
<td>Skin-So-Soft Bug Guard Plus Expedition, SkinSmart</td>
<td>Synthetic β-alanine (amino acid)</td>
<td>Skin</td>
<td>Up to 6 hours</td>
<td>Yes</td>
</tr>
<tr>
<td>Oil of lemon eucalyptus (PMD)</td>
<td>Repel, Off! Botanicals, MyggA Natural</td>
<td>Synthetic lemon eucalyptus leaf derivative</td>
<td>Skin</td>
<td>Up to 6 hours</td>
<td>Yes</td>
</tr>
<tr>
<td>BioUD</td>
<td>BiteBlocker</td>
<td>Synthetic tomato leaf derivative</td>
<td>Skin</td>
<td>2-3 hours</td>
<td>Yes</td>
</tr>
</tbody>
</table>
What about my pet?

Skin-application and collars

Monthly re-application

Lasts 8 months

Chewables

Talk to your vet about which is best for your pet – but use ALL YEAR ROUND

Monthly dosage

1 every 12 weeks

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Oh no! I’ve STILL encountered a tick!
How to safely remove a tick

The risk of a tick-borne illness increases with length of attachment.

***Do NOT apply petroleum jelly, matches, rubbing alcohol, nail polish remover, dish soap, etc. etc. etc. to the tick.
SAVE THAT TICK!

Put tick in a sealable baggie

**LABEL THE BAG**
- Who was the tick on?
- What’s the date you found it?
- Where do you think you picked it up?

Keep tick in freezer for future ID or **testing**

**Testing ticks is often not recommended because the presence of a pathogen doesn’t mean you’ve been infected with it, and you could’ve been bitten by another tick that you didn’t find. Monitor your symptoms.**
Now what?

I-TICK
(Illinois Tick Inventory Collaboration)

https://vetmed.illinois.edu/i-tick/

https://thetickapp.org/
Now what?

• Monitor symptoms
  • Fever? Rash? Abnormal headaches? Generally just not feeling well → see your doctor.
  • Tell them that you were bitten by a tick, the type of tick, how long it was feeding
  • Document with photos any rashes at the bite site
    • Often tick bites get very irritated but this doesn’t mean you’re infected with a tick-borne disease

Image credit: CDC
5 Key take-aways

1. Be familiar with the common tick species in your area and their active seasons.
2. Use effective repellent/protection on people and pets.
3. Make frequent tick checks a habit when outdoors.
4. Remove attached ticks immediately and safely with pointy tweezers.
5. Save that tick!
Other resources


- **I-TICK:** [https://vetmed.illinois.edu/i-tick](https://vetmed.illinois.edu/i-tick)

- **The Tick App:** [www.tickapp.org](http://www.tickapp.org)

- **CDC Ticks:** [https://www.cdc.gov/ticks/index.](https://www.cdc.gov/ticks/index.)

- **EPA Repellent Finder:** [https://www.epa.gov/insect-repellents/find-repellent-right-you](https://www.epa.gov/insect-repellents/find-repellent-right-you)

- **TickEncounter Resource Center:** [www.tickencounter.org](http://www.tickencounter.org)