Tick Safety Awareness Guide

This guide intends to:
• Increase awareness of risks involved with outdoor activities and tick research.
• Foster best practices when working with ticks and while working out in the field.
• Educate on protection strategies to reduce risk of exposure.
• Review emergency response methods to effectively handle incidents.

Welcome to Yale University.

We hope you enjoy your time in New Haven and the beautiful New England scenery, whether it be in fieldwork as part of your academic program or simply exploring the many outdoor spaces available to you.

Unfortunately, a necessary part of spending time outdoors in the area is being aware of ticks. Connecticut is among the leading states in the country in cases of confirmed Lyme disease.

As a Yale employee, faculty member, visiting scientist, or student you have been identified as having potential exposure to ticks or other vectors during field work for your job or as part of a course.

What are ticks, and why should I be concerned?

Ticks are parasites that feed by latching on to a host, embedding their mouthparts into the host’s skin, and sucking its blood. Tick bites commonly go unnoticed because the bite does not hurt and it is not usually itchy. This method of feeding makes ticks the perfect organisms to transmit disease, as they harbor multiple pathogens.

In Connecticut, ticks are most active in the spring and summer, as they are attracted to warmer climates, deep brush, and moisture rich areas. Ticks find their hosts by detecting carbon dioxide emitted from our sweat and heavy breathing. They also detect body odors, body heat, moisture, and vibration.

Ticks hold on to leaves and grass using their third and fourth pairs of legs. They use their first two sets of legs to climb onto a passing host. The tick’s saliva contains anesthetic properties which causes the tick bite to go unnoticed. If a tick contains a pathogen, the organism may be transmitted to the host through the bite. Prompt removal of an attached tick will reduce the chance of infection.

Early detection and treatment is important. Contact your healthcare provider immediately if you have been bitten by a tick or have any health concerns.
What types of ticks and risks are found in Connecticut?

Ticks vary in size, color and shape. The most common types of ticks found in Connecticut are:

- Black-legged “deer” tick
- Lone star tick
- American dog tick
- Asian long horned tick (latest U.S. discovery)

How can I protect myself from ticks?

- Wear light colored clothing when working with ticks or when out in the field.
- Tuck your pants into your socks, and wear gloves long enough to cuff over your long sleeve shirt.
- Wear closed toe shoes.
- Stay on paths while walking in the woods; avoid tall grass and vegetation.
- Wear an insect repellent following the directions and precautions on the label.
- Wear a repellent containing 20-30% DEET (N,N-diethyl-3-methylbenzamide) on exposed skin, avoiding wounds and irritated skin; spray on cuffs, shoes, and sleeves (can damage some clothing materials); wash hands with soap and water after applying.
- Use Permethrin (ON CLOTHING ONLY) to treat boots, hats, hems, sleeves, shoes, and any items low to the ground. Follow the directions and precautions given on the repellent label; apply in a well-ventilated area outdoors protected from the wind; allow 2 hours for drying before wearing.
- Products containing oil of lemon eucalyptus (OLE) or PMD are recommended as an alternative to DEET and Permethrin.

Rashes may develop within minutes, days, or a month after a bite. Common symptoms associated with tick bites:

- Fever
- Chills
- Headache
- Fatigue
- Muscle aches

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<th>Ticks</th>
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| Black-legged tick (“deer tick”) | Lyme disease (most common in Connecticut) | - Joint pain  
- Rash (bullseye shape) |
| Lone star tick | Babesiosis | - Dark urine  
- Nausea, vomiting, diarrhea |
| Dog tick | Ehrlichiosis | - Nausea, vomiting, diarrhea |
| Asian longhorned tick | Rocky mountain spotted fever | - Rash on palms and soles of feet |
| | Tick Paralysis (reverses when the tick is removed from the body) | - Loss of coordination  
- Slurred speech  
- Shallow irregular breathing |

*Please note: ticks do not jump, fly, or drop from trees, but grasp passing hosts from various sources such as the leaf litter and tips of grass. Ticks are usually picked up on the lower legs and then crawl up the body seeking a place to feed.*

*If working with ticks in a lab setting, please contact Yale EHS for additional procedures and best practices.*
**CHECK FOR TICKS OFTEN & When Returning Indoors.**

- After leaving the field, and before entering transportation, **brush yourself off**, remove PPE, and **check for ticks**.
- At home, place dry **clothes in the dryer** on high for 10 minutes to kill any lingering ticks (longer for wet clothes). Then wash clothes using **hot water**.
- Carefully **inspect body** and **remove any ticks quickly**; check body, head/hair, ears, armpits, belly button, waist, behind knees, and in groin areas.
- Take a **shower within 2-hours** of returning indoors. Showering may help wash off unattached ticks and it is a good opportunity to do a self-check for ticks.
- Remember to **check your pets for ticks**. Contact your veterinarian with any concerns.

**Use a mirror or a cell phone camera to perform a self-check in key places!**

- **Hair and Scalp**
- **In and around the Ears**
- **Under the Arms**
- **Inside the Belly Button**
- **Around the Waist**
- **Between the Legs**
- **Back of the Knees**
- **Around the Neck**

**If you find a tick attached to your skin**, there’s no need to panic—the key is to **REMOVE THE TICK AS SOON AS POSSIBLE**.

1. Use **fine-tipped tweezers** to grasp the tick as close to the skin’s surface as possible.
2. Pull upward with steady, even pressure. Don’t twist or jerk the tick; this can cause the mouth-parts to break off and remain in the skin. If this happens, remove the mouth-parts with tweezers. If you are unable to remove the mouth-part easily with clean tweezers, leave it alone and let the skin heal.
3. After removing the tick, thoroughly **clean the bite area** and your hands with rubbing alcohol or soap and water.

**Never crush a tick with your fingers.** Dispose of a live tick by putting it in alcohol, placing it in a sealed bag/container, wrapping it tightly in tape, or flushing it down the toilet.

**Revisit your doctor** if you develop a fever, rash, severe fatigue, facial paralysis, or joint pain within 30 days of being bitten by a tick or if you have any concerns.

- Acute Care/Yale Health: 203-432-0123
- Yale EHS: 203-785-3550 (M-F; 8:30am-5:00pm) 203-785-3555 EHS Emergency Line

**Additional links and resources:**
- CDC: [https://www.cdc.gov/ticks/](https://www.cdc.gov/ticks/)
- Yale EHS—Arthropod and Tick Biosafety: [https://ehs.yale.edu/arthropod-tick-biosafety](https://ehs.yale.edu/arthropod-tick-biosafety)

**To acknowledge your completion of this course, please go to:**