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Special Bulletin for: Safety Directors and Managers of Outdoor Workers.

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Purpose: Safety Reference Guide on ticks and tick borne disease **Prevention**.

Overview: Where to find ticks, how they act, best repellants, best prevention, how to handle their bites, and what makes them tick.

### **Tick Habitat**

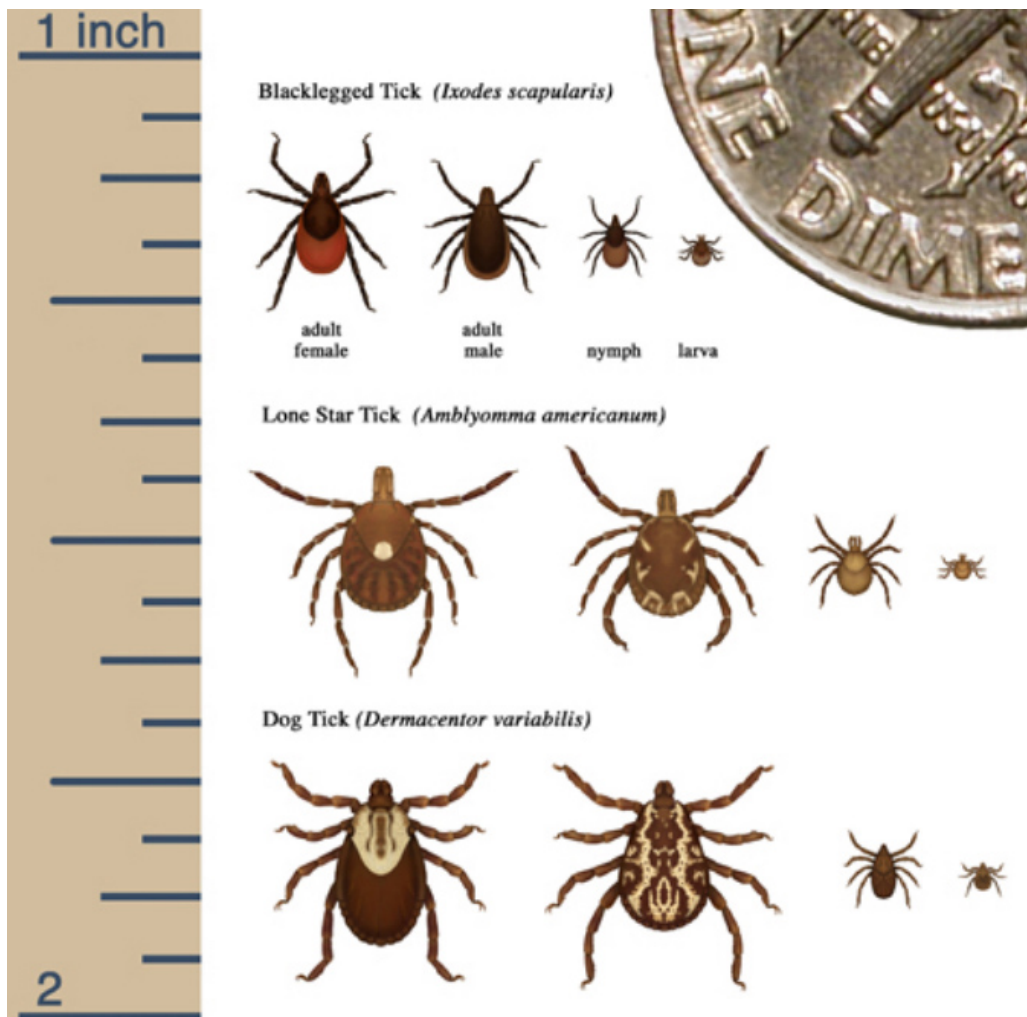
Ticks are generally found in tall grasses and low lying shrubs preferring shaded moist areas. They do not jump, fly, or drop out of trees. Instead they wait patiently on a piece of vegetation to sense the CO<sub>2</sub> or the smell of an animal or human walking by. They then latch on and start their search for a nice place to have a 2-4 day blood meal. They are out in varying numbers in most all of the 48 contiguous states when temps are above 32 degrees or warmer, also note that they do not die off in the winter. The small younger nymph ticks (the size of a poppy seed) are actually responsible for most of the lyme disease cases because at their size they can easily go unnoticed until it is too late. The adults are easier to see but like all ticks they are very stealthy and their bites are painless when they start their feeding.

### **Tick States and Diseases**

The upper east coast along with New York and Pennsylvania have the most tick and Lyme disease cases in the country. The entire eastern time zone can also be considered tick areas with the warmer states having year round problems. Lyme disease was first given its name in the mid seventies after a strange mysterious arthritic condition was found in several young teens in the town of Lyme, CT. The second most tick and Lyme disease cases are found in the upper midwestern states of Wisconsin, Minnesota, Michigan, and surrounding states. The central time zone could also claim that most of the states have some degree of tick problems. It is important to know that while Lyme disease rightfully gets a lot of the attention ticks can also carry more than one disease at a time. Other diseases are Rocky Mountain Spotted Fever, Anaplasmosis, Alpha-gal syndrome (causes a red meat allergy), Babesiosis, and Ehrlichiosis to name a few. Anyone of these diseases could be very serious or possibly life threatening.

### **Tick Species**

Around the world there are about 900 species of ticks, here in the United States we have 10-15 or so. The most popular ticks are the three in the following CDC diagram and are all hard body ticks as opposed to some western soft body ticks. The Blacklegged Tick nicknamed the Deer Tick is the only one known to carry Lyme. The Lone Star tick has the white dot on the female only and the Dog Tick is also called the Woodtick. The females are usually bigger and most apt to be found on humans.



## Prevention

The best way to protect yourself from ticks is to never go outdoors and live in a plastic bubble. Since that is not possible the next best defense against ticks can be summed up in just two words **“Permethrin & Deet.”** They are by far and without question the most effective, most recommended, and the most used on the market today. Both have been safely used for several decades and have been the “go to” products for the outdoor worker industry for a very long time. See following information on each and remember to always use products that are EPA approved and use as directed.

## **Deet**

- Best skin repellent for mosquitos, small flying insects, chiggers, and ticks etc.
- 20-30% Deet is plenty for normal usage.
- Never use on FR clothes because it could flame up in the certain circumstances.
- Most Deet aerosols, pump sprays, and wipes (towelettes) are effective for up to 8 hours.
- Some Deet lotions are effective for up to 12 hours.

## **Picaridin (Non-Deet)**

- Number #2 skin repellent for mosquitos, small flying insects, chiggers, and ticks etc.
- 20% is the standard for normal usage.
- Most Picaridin wipes (towelettes) and pump sprays are effective for up to 8 hours.
- Most Picaridin aerosols are effective for up to 12 hours.

## **Permethrin**

- The best lethal repellent against ticks, chiggers, mosquitos, and mites on the market.
- It is an odorless “contact” repellent that affects the nervous system of ticks and insects and feels like an electric grid when they crawl on it or when they land on it. Insects will fly off and ticks will end up being less productive and eventually dead.
- It is safe for clothes (FR clothes), socks, shoes, hats, gear, tents, and any kind of fabric.
- One of the great benefits is the lasting power. Once applied it can last for weeks and months without having to reapply while still remaining effective after multiple launderings.
- Most aerosols are effective for up to 2 weeks and 2 launderings.
- Most water based pump sprays are effective for up to 6 weeks and 6 launderings.
- One very economical brand of concentrate can be easily mixed by the user (it turns milky white) and they can choose how long it will be effective. It can range from 3 weeks and 3 launderings, 6 weeks and 6 launderings, up to 24 weeks and 24 launderings.
- In some cases clothes can be sent in to be treated or bought pretreated with claims they will remain effective for 50+ weeks and 50+ launderings.
- The Military has been using it for decades.
- It is not to be used on skin.
- For best results just spray on the fabric until visibly damp (even though it is effective when wet) then let dry for 3-4 hours or overnight.

## **Other Miscellaneous tick deterrents and ideas**

- Permethrin treated gaiters are worn like soccer shin guards to repel ticks below the knees.
- Wearing light colored clothing helps to better see ticks.
- Tucking pants in socks makes unwanted ticks more visible.
- Using lint rollers on clothes for removal of ticks.
- Using soaps and shampoos with scents that ticks and bugs don't like. Examples are lavender, cedar, lemon, peppermint, geranium, citronella, etc.

## End of day tick checks and tick removal

- Even with the best preparation and best repellants sometimes a tick can still get through.
- Always do some kind of a tick check.
- Some companies offer private rooms with full length mirrors for personal tick checks.
- Most common places to check are behind the knees, groin area, waist line, the edge of hair line, and behind the ears.
- If you are not wearing permethrin treated clothes you can throw them in the dryer at the end of your day for about 15-20 minutes on high and the dry heat will kill any ticks. After that you can put them in the washer and then take a shower to find anymore stray ticks.
- If you find a tick attached don't panic and realize proper removal is advised because the more a tick is touched, grabbed, and disturbed the more apt it is to regurgitate bad stuff into you before it is removed.
- The best way to remove a tick is to grab it at the skin level with a fine tip tweezers or use a "Tick Key." These two devices work well because they do not squeeze the tick body but just touch the head thus causing the least amount of irritation.
- Once the tick is removed clean the area with rubbing alcohol, If some of the tick is left in the skin don't be alarmed as it will go away in a few days on its own. If needed save the tick for possible testing and then report the incident to the proper people.
- If an infected tick is attached for 24 hours or more it becomes more likely that it will transmit some bad stuff. This is why daily thorough tick checks are so important.

## After the Bite

- This is *the most important info* of this entire Bulletin.
- Quick medical attention is needed by a physician who knows about tick borne diseases if someone develops any kind of the following flu like symptoms, aching joints, fever, chills, muscle aches, joint pain, a bad reaction to the bite, or some kind of a bulls eye rash.
- Most physicians will treat these symptoms with an antibiotic and the person will be fine, rather than waiting months for positive test results.
- The last thing anyone wants to do is ignore any symptoms because tick borne illnesses do not go away on their own and they only get worse with time.
- Early detection and treatment can not be stressed enough !!!

Use this information to brief your crews at the beginning and throughout your tick season.

**For further information and the best repellants on the market see our contact info below and call today to help keep your crews as tick free as possible.**

## Stay Safe Out There !!!



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