

# Protect Yourself from Ticks Where you Work!

*This Issue Brief is specifically for outdoor workers, their supervisors, and workplace safety personnel.*

## What types of workers are at risk for tick bites?

At-risk occupations and job duties include, but are not limited to, the following:

- ⇒ Brush clearing workers
- ⇒ Construction workers
- ⇒ Landscapers
- ⇒ Farmers
- ⇒ Forestry workers
- ⇒ Irrigation worker
- ⇒ Land surveyors
- ⇒ Park or wildlife management workers
- ⇒ Utility line worker
- ⇒ Trail construction/management workers

*Worksites with high, wild grass, mixed hardwood forests, bushes, and leaf litter are likely to have ticks. Ticks can also be found on wood products in campgrounds and parks, and it is advised to be aware of ticks when sitting on logs, wood picnic benches, and even rocks.*

## Types of tick-borne diseases

Ticks may carry bacteria and pass them to humans and other warm-blooded mammals when they attach themselves for a blood meal. Lyme disease is the most commonly reported tick-borne disease in New Hampshire with approximately 1,689 (confirmed and probable) cases reported in 2013. This is an increase in the number of reported cases over recent years. Other tick-borne diseases in New Hampshire include anaplasmosis (88 cases) and babesiosis (23 cases). The highest disease rate is occurring in Rockingham, Hillsborough, and Strafford Counties.

Lyme disease data and maps by county and town are updated annually and are available at: <http://www.dhhs.nh.gov/dphs/cdcs/lyme/publications.htm>.

Lyme disease, babesiosis, anaplasmosis and Powassan virus are transmitted by the bite of the black-legged tick (*Ixodes scapularis*), commonly called the deer tick. The greatest risk for these diseases is between May and August when the nymph (juvenile) stage of the black legged tick is active; nymphs are very small (< 2mm) and often go unnoticed while

attached to people. A single tick can be co-infected with any of the above pathogens and thus transmit multiple diseases during a single bite.

Lyme disease and other tick-borne diseases can be serious. It is important that you and your employer know how to prevent tick bites while working outdoors, and what to do if you are bitten.



## How to identify a tick.

Adult and nymphal ticks have 8 legs and a teardrop body shape.

Adult ticks are less than 1/4 of an inch long and about 1/8 inch wide. The early life stage, called a nymph, is smaller and harder to see than the adult tick, and is about the size of a poppy seed.

## What if you find a tick biting you?

Timing is crucial! Remove the tick as soon as possible. It can take an attached tick at least 24 hours to infect a person with the organisms that cause Lyme disease, anaplasmosis and babesiosis. Powassan virus, however, may be transmitted in a shorter amount of time, so it is important to remove any attached ticks promptly.

## How to prevent tick bites. When working in tick habitat, you should:

- Wear a long-sleeved shirt and long pants and tuck in your shirt. Since ticks are usually brown, reddish, or black, wearing light-colored clothing can help you notice ticks.
- Wear an EPA-registered insect repellent containing at least 20% DEET or Picaridin on exposed skin. Another effective technique is to spray DEET on your clothing to repel ticks or spray permethrin on clothing to kill ticks. Be sure to follow the label instructions carefully.
- Check yourself and others for ticks regularly while you are outdoors. Ticks can be seen crawling on clothing, but they can also find their way into less visible places.
- Take a shower soon after you return from a tick-infested area. Check for ticks everywhere, including behind the knees, under the arms, and in the hairline and groin areas. Make additional checks for several days after being in tick habitat.
- Wash and dry work clothes in a hot dryer
- If you take your pet into tick habitat, conduct several tick checks on your pet as well.



## How to remove a tick

**The best method to remove a tick is to manually pull it out using tweezers.**

- Cleanse the area around the tick with soap and water or antiseptic.
- Grasp the tick's mouthparts with the tweezers close to the skin.
- Using a gentle, straight-up motion, pull the tick slowly upwards. Do not twist or jerk the tick while pulling.
- Occasionally during removal, the embedded mouthparts may break off and stay in the skin. If this happens, remove the mouth parts with tweezers as you would a splinter.
- If you cannot remove the mouthparts, clean the wound, apply antibiotic ointment, and see your health care provider, especially if the bite site becomes infected.
- Apply an antiseptic to the bite site and wash your hands with soap and water.

Some commercially available tick-removal devices can be effective. These devices usually have a beveled edge to make it easier to grasp the tick, are handy to carry, and may be easier to use than tweezers. The same principle of pulling the tick up and out slowly without twisting applies. Tick removal techniques such as applying nail polish, lighting the tick with a match, or swabbing it with liquid soap are not effective and can be dangerous.



## Possible Reactions

Some people develop a painful red reaction at the tick bite site within 24 hours of the bite.

This reaction to the saliva of the tick goes away within days and does not mean a disease agent has been transmitted.

Documentation of a tick bite while on the job should be discussed with your supervisor and/or safety officer. The safety officer may want to note the date of the tick bite and the work location at the time of the bite in case symptoms of a tick-borne illness begin within one month after the bite.

Testing a tick for presence of a disease-causing agent is not recommended because test results may not be accurate, may take too long for medical decision-making, and a positive result does not necessarily indicate transmission has occurred. It is more important to monitor yourself for symptoms of a tick-borne disease after a tick bite.

## Symptoms of a tick-borne disease

Some of the most common symptoms of tick-borne diseases are:

**Body/muscle aches**  
**Fever**  
**Headaches**  
**Fatigue**  
**Joint pain**  
**Stiff neck**  
**Facial paralysis**

### Rash

For Lyme disease the rash is a spreading painless reddened area, sometimes with “bullseye” appearance; the Rocky Mountain spotted fever rash is a red spotted rash beginning on the palms and soles of the feet.

*These symptoms can develop 3 to 30 days after the bite from an infected tick.*



**For more information about tick-borne diseases in New Hampshire, visit the New Hampshire Division of Public Health Services Website:**

<http://www.dhhs.nh.gov/dphs/cdcs/lyme/index.htm>

## What if you develop symptoms of a tick-borne disease?

If you develop symptoms of a tick-borne disease, notify your employer and seek medical attention promptly.

***Be sure to tell your health care provider that you work outdoors in an area where ticks may be present.***

### Diagnosis and treatment

Tick-borne diseases are diagnosed based on symptoms and the possibility that the worker has been exposed to infected ticks. Fortunately, Lyme disease, anaplasmosis and babesiosis are highly responsive to commonly available antibiotics, particularly if therapy is given early in disease.



To see Lyme disease data and maps by county and town, go to: <http://www.dhhs.nh.gov/dphs/cdcs/lyme/publications.htm>

## Recommendations for employers

*Employers can take proactive steps to help prevent tick bites to their employees by providing them with knowledge and protection:*

- When possible, have workers avoid sites with woods, bushes, tall grass, and leaf litter.
- Be aware of when and where ticks are present.
- Suggest the use of protective clothing: long-sleeved shirts, long pants, and socks. If uniforms are provided, provide light-colored long-sleeved shirts and long pants as clothing options.
- Train employees to know what a tick looks like and how to remove one if it attaches.
- Inform employees about how tick-borne diseases are spread, and risks of exposure and infection.
- Provide EPA-registered repellents (containing 20% to 30% DEET) for use on skin and clothing for protection against tick bites. Permethrin, which kills ticks on contact, can be also provided for use on clothing. Commercially available permethrin-impregnated work clothes may also be an option. Be sure repellent label instructions are read prior to application.
- Stress the importance of timely reporting of workplace illnesses and injuries, including tick bites or symptoms of tick-borne disease.



# NH Occupational Health Surveillance Program

---

Karla R. Armenti, ScD, Principal Investigator  
Occupational Health Surveillance  
Bureau of Public Health Statistics &  
Informatics  
Division of Public Health Services  
29 Hazen Drive  
Concord, NH 03301  
Phone (603) 271-8425

[www.dhhs.nh.gov/dphs/hsdm/ohs](http://www.dhhs.nh.gov/dphs/hsdm/ohs)

---

**We're on the web!**

---

[www.dhhs.nh.gov/dphs/hsdm/ohs](http://www.dhhs.nh.gov/dphs/hsdm/ohs)

*“Work-related injuries and illnesses are preventable, and control of occupational hazards is the most effective means of prevention.”*

*Successful approaches to making the workplace safer begin with having the most accurate and current occupational health surveillance data.”*