

# TICK TECH

What if you knew something was lurking in the north woods that could cause extensive harm or even death to you or your family members? Would you prepare? Would you act? Unfortunately, this is not the intro to a Steven King novel. This is real. While you were away this winter in your southern locations, ticks were spending the winter in West Barnet underground or sucking the contaminated blood from vermin and other warm-blooded animals waiting for your return to this scenic wonderland. Those of us over 35 years of age can remember walking through woods and fields when the most you had to worry about was poison ivy. Now you must worry about Lyme disease, Anaplasmosis, Babesiosis, Ehrlichiosis, Powassan virus, Borrelia mayonii disease, Tularemia, and even isolated cases of Rocky Mountain Fever. Worse, some of these diseases are chronic; your body will never fully be over it. Most likely, you may have to deal with these symptoms for the rest of your life. This smorgasbord of diseases is carried by the blacklegged tick (commonly known as the deer tick), but the dog tick (or wood tick) can also carry some of these debilitating diseases. Now due to the proliferation of ticks when you take your dog for a walk to improve your health, you are actually risking your health and perhaps even your life. Ticks are most active between May and September, which is when you want to spend time outdoors and Vermont has the highest incidence of Lyme disease in the country. This is war and you are being attacked.

How can you protect your family? You can take a chance that nothing will happen to you or your 10-year-old granddaughter or you can mount a defense. If you choose to mount a defense, you will need to realize, you are basically alone in a sea of conflicting opinions/advice, questionable essential oils and toxic pesticide chemicals. There is not much help for you by the State or even the Center of Disease Control (CDC). You will need a plan and strictly follow the plan. A model plan is below but conduct your own research and make any improvements you think make sense. It is important to know that you basically have only one weapon in your arsenal – **Permethrin**. Insect repellants containing heavy DEET concentrations or other non-permethrin chemicals have been shown to be worthless. Permethrin is a synthetic chemical that acts like natural extracts from the chrysanthemum family (check [npic.orst.edu](http://npic.orst.edu)). Permethrin is currently in more than 1,400 registered products including hornet spray, shampoo for humans with scabies or head lice as well as dog flea collars. These products are regulated by the FDA. One source for Permethrin spray is on Amazon “Sawyer Premium Permethrin Clothing Insect Repellent” 24 oz for \$14.95. Sure, there are warnings about the health and safety of permethrin, but at this point, but consider the benefits vs. the risks. For me, preventing a deadly or severely debilitating disease is worth the risk.

**--RED DUFRENSE**

# TICK PROTECTION PLAN

## 1. Set up and defend your perimeter:

- a. Rural homes and seasonal camps provide an opportunity to get close to nature. Mice and squirrels living in woodpiles, sheds, and even cellars or attic spaces are common sightings. Unfortunately, these harmless creatures provide shelter and transportation for the ticks.

You should take these steps:

- i. Purchase or make your own tick tubes. These are basically used toilet paper tubes filled with cotton balls and shredded newspaper sprayed with Permethrin. Drop one every 100 feet or so around your lawn area and near woodpiles or sheds. Mice will use this material for their nests and the Permethrin will kill the ticks but not harm the mice. Mice make nests in April and July so renew these tubes and replace during these months. Tick tubes are available from Amazon “Damminix 27203 Tick Tub”, 24-pack \$68.00. But if you have Permethrin spray and some old toilet paper tubes and cotton balls you can make your own for pennies.
- ii. Keep your lawn area mowed and rake up loose leaves, hay, and brush.
- iii. If your camp is near areas where you commonly see deer, you should take the additional step of spreading Permethrin granules with a lawn spreader. American brand permethrin granules are available in 25-pound bags from “DoMyOwn.com” for \$25.00 which would do about 12,000 square feet and provides protection for about 3 months. This product may not be available for delivery to Vermont but check in the site to see.
- iv. If you have a dog or cat that enters your house or camp at will – you will have to deal with ticks in your house. You should spend some time at night with a fine-toothed comb to clear ticks. At least get the tick collar and the vaccine to protect the pet. But realize with an indoor/outdoor pet, your perimeter is breached.

## 2. Prepare Tick Proof Clothing:

- a. If you are thinking about going for a non-winter walk through the fields or woods in the northeast, you should rethink your seemingly harmless adventure. If you are a farmer, logger, or surveyor, you may want to consider a new profession. If you like to hike, hunt, brook fish, spend time in the garden, you may want to consider dropping these activities and start with needlepoint or basket weaving. Stay inside and get an X-Box or read a book. It’s safer. But if you have an unquenchable death wish and feel you must enter enemy territory, follow some new rules and get some real protection as follows:

- i. Wear good hiking boots. Crocks or flip flops present a death wish.
- ii. Walk in the middle of the trail away from branches.
- iii. Avoid walking through fields with tall grass.
- iv. Check clothing frequently and pick off and kill and ticks you find. When you return lint roll or brush off and kill any ticks. You will notice they are almost as hard to kill as the Alien.
- v. Dedicate a set of clothing for your risky lifestyle. Spray your pants, gaiters, shirt, and hat with Permethrin and let them thoroughly dry for 24-hours. Wear an untreated pair of white socks over the bottom cuff of your pants to prevent their access to your legs. The treated clothing serves as your Kevlar uniform and will last through 3 or 4 washings. Replenish as necessary during the April to September period. Take these off in the garage and away from living spaces and children.

### 3. Perform Nightly Tick Checks:

- a. Even with a good perimeter, you will need a partner for this and you may want to consider a hair style like Bruce Willis rather than Brad Pitt. Looking good with Lyme disease is not cool. Stand in a well-lit area and use a flashlight. If you don't have an eagle-eyed partner, get yourself an endoscope Kzyee wireless endoscope Deptech WiFi Inspection Camera for Android and IOS Smartphone \$39.99 from Amazon. This will allow you to inspect those hard to reach spots without being double jointed. Remember it's not the one on your arm that will get you; it's the one on the back of your neck under your hair line (or naval, or ear, or you know). There's no place ticks love more than a dark, warm area that keeps them hidden while they draw you blood and deliver diseases from the last vermin they previously fed upon.
- b. We have been fairly obsessed with nightly tick checks for the past five years, but we have had to go to an enhanced tick check program after we found a tick inside the diaper of a 6-month-old and inside a naval of a completely freaked out adult. I'm not talking about after a hike through a heavily wooded area. These were discovered after leisurely walks around our property and gardens. Treat tick checks as the last line of defense... as if your life depends on it. "I'm too tired tonight, honey" or "I only walked across the lawn once today, dear" could saddle you with Anaplasmosis. There is some information that ticks must be attached for at least three days to be of concern, but there is also information indicating concern after two or three hours. Also, if you can answer the seemingly important question of "how long has it

been attached” you are not doing it right. If you knew about the tick you would have removed it.

- c.** If you find a tick, crawling along just remove and kill it.
  - d.** If the tick is attached, you will need a tick removal device. The methods of using a match or Dawn dish detergent or Vaseline don't work and may increase your chances of getting Ehrlichiosis. The best we have found is “Adventure Medical Kits Tick Nipper” from Dicks Sporting Goods at \$6.99. Another acceptable one is the Tick Twister (although named improperly) is available from Amazon at \$4.99 for a small and large unit. Pull straight out and do not twist it back and forth. The last thing to use is a normal set of tweezers which could squeeze the tick and spew all sorts of pathogens into your body. Although it hardly needs to be said, remove it now... not later.
  - e.** My own thinking that if the tick was attached, you should go to battle stations and take the 200 mg single dose of Doxycycline. I realize that this is a shot in the dark, which will only work in a certain window (which appears to be three days after initial inoculation of the non-viral pathogen) but it's better than doing nothing. You can follow it up in a few days with a probiotic. For this strategy you will need a relationship with your PCP. If your PCP is not willing to give you a standing prescription or immediately phone it in to the drug store, get a new PCP.
  - f.** There are some doctors who support the idea to send the tick in for testing and others who will tell you that it's going to take too long or not worth it. My advice is that if the tick is embedded and engorged, you should send the tick in for analysis. Your doctor should have information about a sight where you can send your tick. Regardless of the results, watch for symptoms and listen to your body and seek medical care; time is of the essence.
  - g.** Check your children thoroughly and teach them how to check themselves. Show them what ticks look like either online or when one gets on you or your pet.
- 4.** What if a tick got through your defenses and your inspections and now you're sick?
- a.** You need to recognize the symptoms. Don't depend on the “bullseye”; its only there half the time and unfortunately, we are not dealing with just Lyme disease. Furthermore, the bullseye can show up a month or more after the bite... after the disease has already started taking down your body's immunity. You must advocate for yourself. Until the CDC comes up with vaccinations for the myriad of tick diseases, its up to you to protect you and your loved ones. Check the symptoms of tick related diseases on the Infectious Disease Society of America (IDSA) site but check for:

- i. tiredness neurological and facial muscular spasms
- ii. Unexplained fever with high low swings
- iii. Headache
- iv. Non-productive cough
- v. Decreased white blood cells
- vi. Abnormal liver functions (3 to 4 times the normal ranges)
- vii. Flu like symptoms including joint pain and high fever
- viii. Feeling like you are in a mental fog, forgetting important details
- b.** Don't wait and let the pathogens get into your head (seriously). Get to a medical professional certified as "Lyme Literate" (LLMD). There is one in Littleton and one at DHMC. Failure to get a physician knowledgeable in fighting tick related diseases could cost you dearly. Unfortunately, blood tests are largely unreliable, and many doctors diagnose based on symptoms and not test results. Note that symptoms can be different in children. Sometimes, a child will exhibit the above-mentioned symptoms and some of the following symptoms:
  - i. Mood Swings
  - ii. Vision Problems
  - iii. Headaches and Stomachaches
  - iv. Hyperactivity/ADHD Symptoms
  - v. Autism-like Behaviors
  - vi. Oppositional Behaviors
  - vii. Self-Mutilating Behaviors
  - viii. Exhibiting new learning Disabilities
    1. Trouble with Processing Speed and Memory
    2. Vocal/Motor Tics
    3. Sudden Onset Anxiety Disorders
    4. Light and Sound Sensitivity
    5. Difficulty Focusing
    6. Obsessive Compulsive Behaviors
    7. Dark circles under eyes
    8. Irregular Rashes
    9. Lethargy

Young children may not recognize or volunteer these signs and symptoms, so parents must be extra diligent to check in on children and even remind teachers. There are printable fact sheets for education professionals and school nurses available at <http://vtlyme.org/lyme-disease-in-children/>.

**-- RED DUFRENSE**