



Prepare a “NO TICKS KIT” which includes:

1. **PREVENTION:** For additional information see: <http://tic-nc.org/Making-sense-of-repellentsV2.html>
 - Tick repellent (without Deet) to apply to the skin
 - Tick repellent with Permethrin to spray on clothes

2. **EDUCATION:**
 - Directions “TICK REMOVAL”

NOTE: If a tick is ‘walking’ on your skin, removed it with the tape, fold it over and throw it away.

3. **TICK REMOVAL SUPPLIES**
 - ✓ Fine point tweezers
 - ✓ Vinyl gloves to prevent bacteria from getting on your skin.
 - ✓ Cotton to clean the skin.
 - ✓ Grapefruit seed extract to put on the skin when a tick is removed. GSE is an antiseptic recommended by a doctor that treats Lyme Disease. (Available at health food stores.
 - ✓ Alcohol hand wash to wash after removal
 - ✓ Tape, index card, pencil - to save the tick, location of the bite and date.

4. **FOR GARDENING:**

Wear light colored clothes, so you can easily see ticks. Spray your clothes & boots with permethrin before you put them on. Tuck your pants inside garden boots. If you have a set of “garden clothes” you can spray them

5. **IF YOU’VE BEEN IN A TICK INFESTED AREA OR GARDEN:** Avoid bringing ticks into you home by:
 - ✓ Puttin your clothes in a clear plastic bag, until you can wash them in in hot water. Dry them on the hottest cycle for 30 minutes.
 - ✓ Taking a bath/shower immediately with Bonner’s Peppermint Castile Soap. If you find seed ticks (small ticks that look like pepper) on your body, bathe with Bonners Peppermint Castile Soap

Basic Information about tick-borne diseases (TBDs): from <http://tbdalliance.org/>

ANAPLASMOSIS - Caused by the bacterium *Anaplasma phagocytophilum*, previously known as human granulocytic ehrlichiosis (HGE) and more recently called human granulocytic anaplasmosis (HGA). Symptoms include fever, headache, chills, and muscle aches.

BABESIOSIS - Protozoan infection of red blood cells. Symptoms can be mild to life threatening, with a high fever and fatigue. More severe in people who have had their spleen removed. Strains include:

- Babesia-Microti
- Babesia-WA1
- Babesia divergens
- B. bovis
- Other species are possible

BARTONELLA HENSELAE - CAT-SCRATCH DISEASE - Bacterial disease starting with a red mark that can become swollen and discolored. Symptoms include swollen lymph nodes (especially under ears) with conjunctivitis, heart or spleen problems, bone lesions, hepatitis, eye problems and encephalitis (causing seizures and coma). There is indirect clinical evidence that there are a group of "Bartonella-like organisms" that can co-infect a Lyme patient. Identification of these organisms awaits further scientific study.

COLORADO TICK FEVER - Viral disease characterized by a high fever and sometimes a faint rash. After a 2-3 day remission, symptoms recur, accompanied by a drop in white blood cells. Complications may include encephalitis, heart problems and severe bleeding.

EHRlichiosis - Rickettsial infections (HME and HGE forms) of white blood cells. A rash may occur. Severe illness may have neurologic complications. Delayed treatment can result in death.

LYME (MASTERS') DISEASE - Multisystem bacterial infection that can start with an enlarging rash. Brain, joint, heart, eye, spleen, kidney and other organs can be affected. Lyme disease has been reported worldwide, in every continent except Antarctica. It is well known that migrating birds can distribute ticks long distances, which may be one reason for Lyme's presence all over the globe.

1. ***Lyme and tick-borne diseases are prevalent across the entire United States.*** Ticks do not know geographic boundaries. A person's county of residence does not accurately reflect their total TBD risk, since people travel, pets travel, and ticks travel. This creates a dynamic situation with many opportunities for exposure for every individual.
2. ***Lyme disease is a clinical diagnosis because there is no definitive diagnostic test yet.*** Spirochetal infection of multiple organ systems causes a wide range of symptoms. Familiarity with its varied presentations is key to recognizing disseminated Lyme disease. The medical practitioner should be experienced to make a proper clinical diagnosis.
3. ***Fewer than half of patients with Lyme disease recall a tick bite.*** In some studies this number is as low as 15%. So if you never saw a tick on your body, it doesn't mean you are TBD-free.
4. ***Fewer than half of patients with Lyme disease recall any rash.*** Although the bullseye red rash is considered the classic sign to look for, it is not even the most common dermatologic manifestation of early Lyme infection. Atypical forms of this rash are seen far more commonly. It is important to know that the Erythema Migrans rash is a clear, unequivocal sign of Lyme disease and requires no further verification prior to starting six weeks of antibiotic therapy. Shorter treatment courses have resulted in upwards of a 40% relapse rate.

5. There has never in the history of this illness been one study that proves even in the simplest way that 30 days of antibiotic treatment cures Lyme or tick-borne diseases. However, there is a plethora of documentation in US and European medical literature demonstrating that ***short courses of antibiotic treatment fail to eradicate the Lyme spirochete and other tick-borne bacteria.***
6. There is no test currently available to determine whether the bacteria organism is eradicated or the patient is cured.
7. There are five subspecies of *Borrelia burgdorferi*, over 100 strains in the US, and 300 strains worldwide. This diversity is thought to contribute to *Borrelia burgdorferi*'s various antibiotic resistances.
8. Lyme disease is a "great imitator" and should be considered in the diagnosis of MS, ALS, seizure and other neurological conditions, as well as arthritis, CFS, Gulf War syndrome, ADHD, hypochondriasis, fibromyalgia, somatization disorder, autism, orthostatic hypotension, encephalitis, meningitis and patients with various difficult-to-diagnose multi-system syndromes.
9. Lyme is the number one tick-borne illness in the US. The CDC reports there are 24,000 new cases of Lyme disease in the US each year, but the CDC also states that past figures may have been underreported by tenfold. ILADS (International Lyme and Associated Diseases Society) believes newly diagnosed cases of Lyme may occur at a rate five times higher than the number of new AIDS cases.
10. Symptoms of Lyme and tick-borne diseases include:

- Fatigue

- Low grade fevers, "hot flashes" or chills
- Night sweats
- Sore throat
- Swollen glands
- Stiff neck
- Migrating arthralgias, stiffness and frank arthritis
- Myalgia
- Chest pain and palpitations
- Abdominal pain, nausea
- Sleep disturbance
- Poor concentration and memory loss
- Irritability and mood swings
- Depression
- Back pain
- Blurred vision and eye pain
- Jaw pain
- Testicular/pelvic pain
- Tinnitus
- Vertigo
- Cranial nerve disturbance (facial numbness, pain, tingling, palsy or optic neuritis)
- Headaches
- Lightheadedness
- Dizziness
- Mysterious migrating symptoms that seem to come and go
- Cyclical symptoms

POWASSAN ENCEPHALITIS - Viral brain infection causing seizures, aphasia, muscle weakness, dementia and death.

QUERY (Q) FEVER - Rickettsial infection causing high fever, pneumonia and damage to the liver, heart, or brain. Potential bioterrorism agent because it can become airborne.

RELAPSING FEVER - Multisystem bacterial infection with symptoms similar to Lyme Disease. Characterized by repeating bouts of fever lasting 2-9 days, alternating with periods of no fever. Potential bioterrorism agent.

ROCKY MOUNTAIN SPOTTED FEVER - Rickettsial infection causing a reddish-to-black rash resembling measles. Diagnosis and treatment must be made immediately or death can occur.

TICK PARALYSIS - Loss of motor function and increasing paralysis caused by a reaction to a female tick's neurotoxins.

TULAREMIA - Bacterial infection causing repeated fever spikes. Swollen lymph nodes develop into skin ulcers, conjunctivitis, and pneumonia. Potential bioterrorism agent.

TICK REMOVAL (adapted from: <http://tic-nc.org/> and <http://tbdalliance.org/>)



1. Wear gloves (whenever possible) to prevent getting bacteria on your skin. The stomach contents of a tick contain many different bacteria, which can cause disease.
2. Use fine-point tweezers to grasp the tick at the place of attachment, as close to the skin as possible.
 - Gently pull the tick straight out. It is important to continue to pull steadily until the tick can be eased out of the skin. Pull back slowly and steadily with firm force. BE PATIENT...
 - The long, central mouthpart (called the hypostome) is inserted in the skin. It is covered with sharp barbs, sometimes making removal difficult and time-consuming.
 - Most ticks secrete a cement-like substance during feeding. This material helps secure their mouthparts firmly in the flesh, further adding to the difficulty and time it takes for them to release their grip.
 - Tape the tick on a card, or place tick in a small container or baggie. Label with the name, location of the bite and date.
 - Wash your hands, disinfect the tweezers and the bite site with an antiseptic or alcohol.
3. Call a medical practitioner to determine if treatment is warranted. If the tick has noticeable engorgement, it was probably attached long enough to transmit disease. Some physicians believe that even during a brief attachment the tick's saliva may transmit bacteria. Not all ticks are infected with disease-causing pathogens, but increasingly many are.

The following techniques increase the risk of infection. It is important that you:

- DO NOT use bare fingers or squeeze or twist the body.
- DO NOT pull back sharply, as this may tear the mouthparts from the body of the tick, leaving them embedded in the skin. If this happens, do not panic. Embedded mouthparts are comparable to having a splinter in your skin. Mouthparts alone cannot transmit disease because the infective body of the tick is no longer attached. However, to prevent the chance of secondary infection, it is best to remove them. Seek medical assistance if necessary.
- DO NOT squeeze or crush the body of the tick because this may force infective body fluids through the mouthparts and into the wound site.
- DO NOT burn or use any substance on the tick, it may cause the tick to regurgitate infected materials into the wound.