

DON'T TICK ME OFF



Lyme Disease

- Also known as **Lyme borreliosis**, is an infectious disease caused by bacteria the *Borrelia* type which is spread by ticks



History of Lyme Disease

In the early 1970s a group of children and adults in the coastal town of Lyme, Connecticut, and the surrounding areas were suffering from some puzzling and debilitating health issues.

Their symptoms included swollen knees, paralysis, skin rashes, headaches, and severe chronic fatigue. Two persistent area mothers brought it to the attention of Yale researchers who identified and named Lyme Disease.



Ticks Crawl Up

- Ticks don't jump, fly, or drop from trees onto your head and back. If you find one attached there, it most likely latched onto your foot or leg and crawled up over your entire body. Ticks are "programmed" to try and attach around your head or ears. On their normal hosts, ticks also usually crawl up; they want to blood feed around the head, neck, and ears of their host, where the skin is thinner and hosts have more trouble grooming.

All ticks (including deer ticks) come in small, medium and large size

- Ticks hatch from eggs and develop through three active (and blood-feeding) stages: **larvae** (small-the size of sand grains); **nymphs** (medium-the size of poppy seeds); **adults** (large-the size of apple seeds). If you see them bigger, they're probably partially-full or full of blood.





Ticks can be active even in the winter

- That's right! Adult stage deer ticks become active every year after the first frost. They're not killed by freezing temperatures, and while other ticks enter a feeding diapause as day-lengths get shorter, deer ticks will be active any winter day that the ground is not snow-covered or frozen. This surprises people, especially during a January thaw or early spring day. Remember this fact and hopefully you'll never be caught off-guard.

Ticks carry disease-causing microbes

- Tick-transmitted infections are more common these days than in past decades. With explosive increases in deer populations, extending even into semi-urban areas in the eastern and western U.S., the trend is for increasing abundance and geographic spread of deer ticks and Lone Star ticks; and scientists are finding an ever-increasing list of disease-causing microbes transmitted by these ticks, an annoyance but now a bite is much more likely to make you sick.

For most tick-borne diseases, you have at least 24 hours to find and remove a feeding tick before it transmits an infection
(Maybe & Maybe not)

- Even a quick daily tick check at bath or shower time can be helpful in finding and removing attached ticks before they can transmit an infection. Lyme disease bacteria **may** take at least 24 hours to invade the tick's saliva.
- This is not agreed upon in the medical community

Deer tick nymphs look like a poppy seed on your skin

- It's important to know what you're really looking for. They're easy to miss, their bites are generally painless, and they have a habit of climbing up (under clothing) and biting in hard-to-see places.

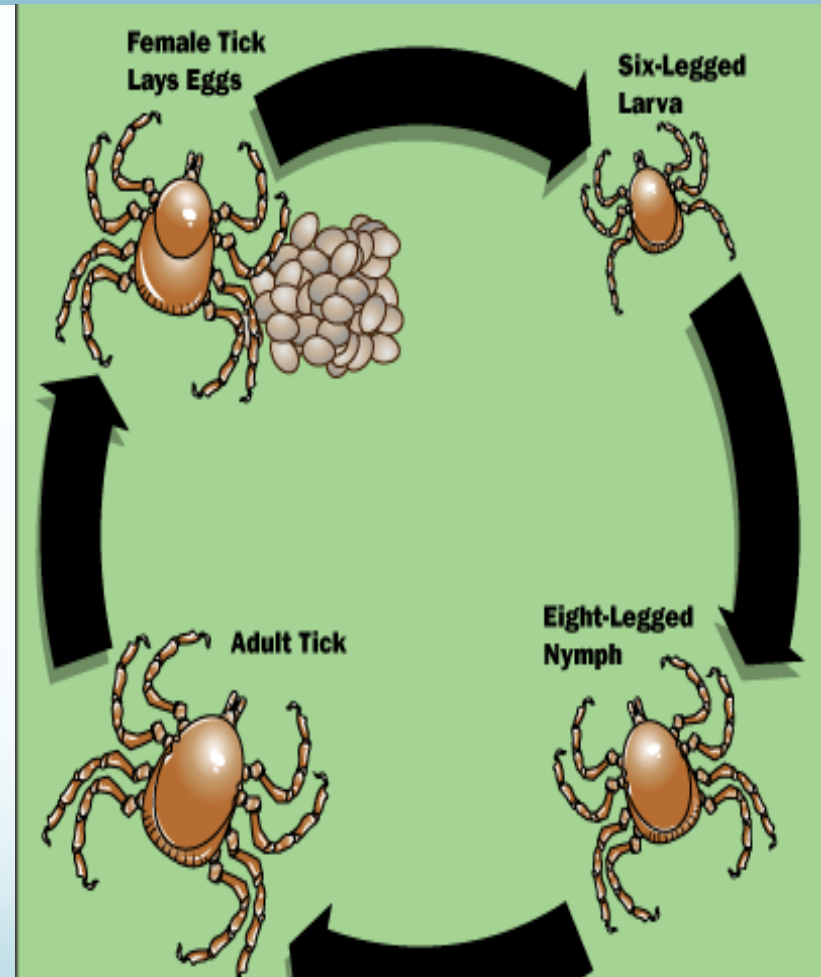


Clothing with built-in tick repellent is best for preventing tick bites

- An easy way to avoid tick bites and disease is to wear (shoes, socks, shorts or pants, and shirt) with permethrin tick repellent built-in. Commercially-treated tick repellent clothes last through at least 70 washes, while using kits or sprays to treat your current outdoor wardrobe can last through 6 washes. Tick repellent on clothing, not skin is something everyone needs to know about to stay safe outdoors.

How long do ticks live?

- Ticks can live as long as 200 days without food or water and they can live from 2 months to 2 years, depending on the species.



A Single Female Can Lay Thousands of Eggs

Generally, adult female hard ticks breed while on the host animal and then drop to the ground to lay eggs. A female lays **several thousand** eggs at a time, which will eventually hatch into the larval stage, known as seed ticks. At this stage of life, these small ticks (about **1/8**-inch in size) have **six** legs.



THESE ARE TICK EGGS



Tick Talks



- The deer tick, crawls up under clothes, latches on without much fanfare, and these ticks are LOADED with disease-causing pathogens
- Once attached to people or pets, deer ticks are just hard to find! Their numbers are on the rise and they occur in more & more places – even your backyard!

Look around your home !



MR RABBIT



Squirrel and Bird



Human Head



Spreading Rapidly

- Lyme disease is one of the fastest-growing vector-borne infections in the United States. The CDC estimates that there are over 329,000 new cases of Lyme disease each year in the US. And increasing world wide.
- And diagnostic tools are still unreliable — as of yet there is no definitive cure for those with late-stage Lyme.

Symptoms

- Lyme disease symptoms can appear quickly or gradually over time, and they are incredibly varied and can wax and wane. The first physical signs of Lyme infection are often flu-like symptoms – sore throat, headaches, congestion, stiffness, etc. – so many people, including doctors, dismiss the symptoms as the flu or the common cold.
- During its nymph stage, a tick is only about the size of a period on a sentence. Many people are infected by nymph ticks, but don't suspect Lyme disease because they don't recall being bitten. In fact, 50% of people infected don't remember being bitten and **less than 50% of people will get any over-emphasized rash.**

Eyes/Vision

- Double or blurry vision
- Increased floating spots
- Pain in eyes, or swelling around eyes
- Oversensitivity to light
- Flashing lights, peripheral waves or phantom images in corner of eyes



Ears/Hearing

- Decreased hearing in one or both ears, plugged ears
- Buzzing in ears
- Pain in ears, oversensitivity to sounds
- Ringing in one or both ears

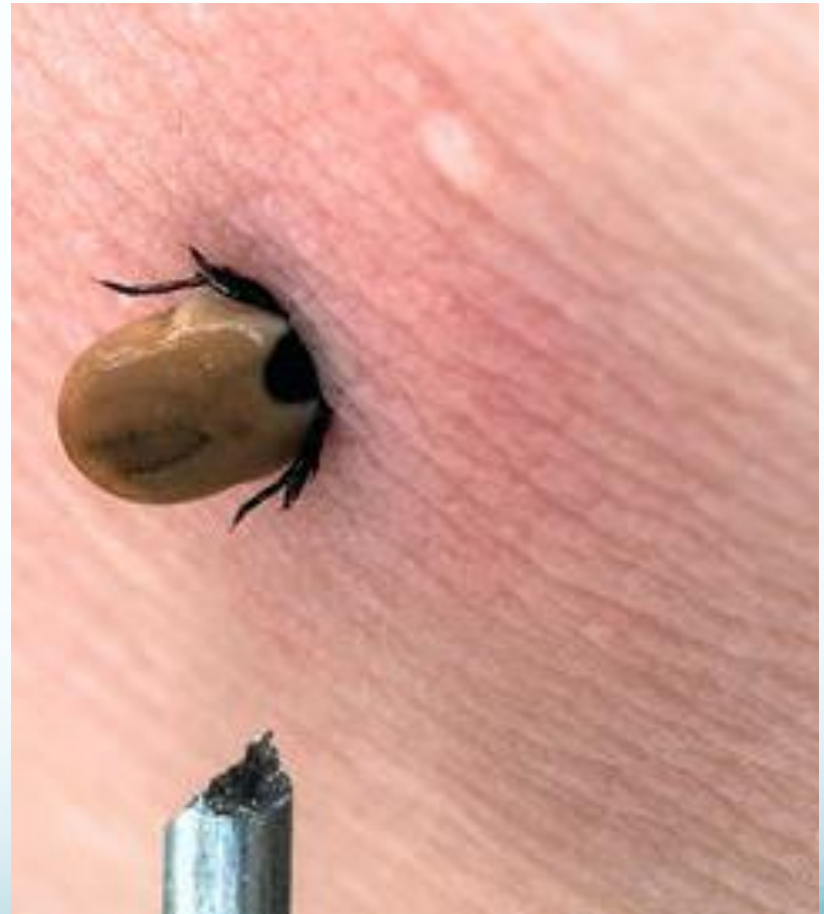


Digestive Systems

- Diarrhea
- Constipation
- Irritable bladder (trouble starting, stopping) or interstitial cystitis
- Upset stomach (nausea or pain) or GERD (gastroesophageal reflux disease)

Musculoskeletal System

- Bone pain, joint pain or swelling, carpal tunnel syndrome
- Stiffness of joints, back, neck, tennis elbow
- Muscle pain or cramps, (Fibromyalgia)



Respiratory and Circulatory Systems

- Shortness of breath, can't get full/satisfying breath, cough
- Chest pain or rib soreness
- Night sweats or unexplained chills
- Heart palpitations or extra beats
- Endocarditis, heart blockage



Psychological Well-being

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- **Psychological Well-being**
- Mood swings, irritability, bi-polar disorder
- Unusual depression
- Disorientation (getting or feeling lost)
- Feeling as if you are losing your mind
- Over-emotional reactions, crying easily
- Too much sleep, or insomnia
- Difficulty falling or staying asleep
- Narcolepsy, sleep apnea
- Panic attacks, anxiety

Mental Capability

- Memory loss (short or long term)
- Confusion, difficulty thinking
- Difficulty with concentration or reading
- Going to the wrong place
- Speech difficulty (slurred or slow)
- Difficulty finding commonly used words
- Stammering speech
- Forgetting how to perform simple tasks

New Infections

- Since Lyme disease was first identified in 1981, researchers have found more than 15 tick-borne pathogens that weren't known before. New ones are still being discovered. In 2011, *Borrelia miyamotoi* was identified as a cause of disease and recently recognized by the CDC in the United States. Commercial tests are not available for all tick-borne diseases, including infection with *B. miyamotoi* or Powassan virus.

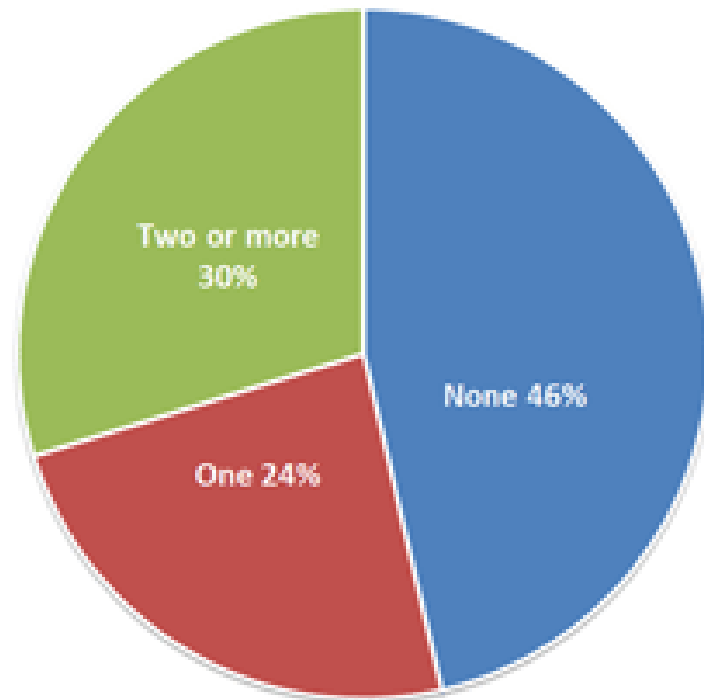
CO- INFECTIONS

- Coinfections may be common – at least among those with chronic Lyme disease. A recently published [LDo survey](#) over 3,000 patients with chronic Lyme disease found that over 50% had coinfections, with 30% reporting two or more coinfections. The most common coinfections were Babesia (32%), Bartonella (28%), Ehrlichia (15%), Mycoplasma (15%), Rocky Mountain Spotted Fever (6%), Anaplasma (5%), and Tularemia (1%). A [similar study](#) in Canada found similar rates of coinfection in patients with chronic Lyme disease:

Babesia

- Babesia is a malaria-like parasite, also called a “piroplasm,” that infects red blood cells. Scientists believe Babesia microti is the most common piroplasm infecting humans, but they have identified over twenty piroplasms carried by ticks.

More than half of those with chronic Lyme disease have at least one coinfection. 30% have 2 or more

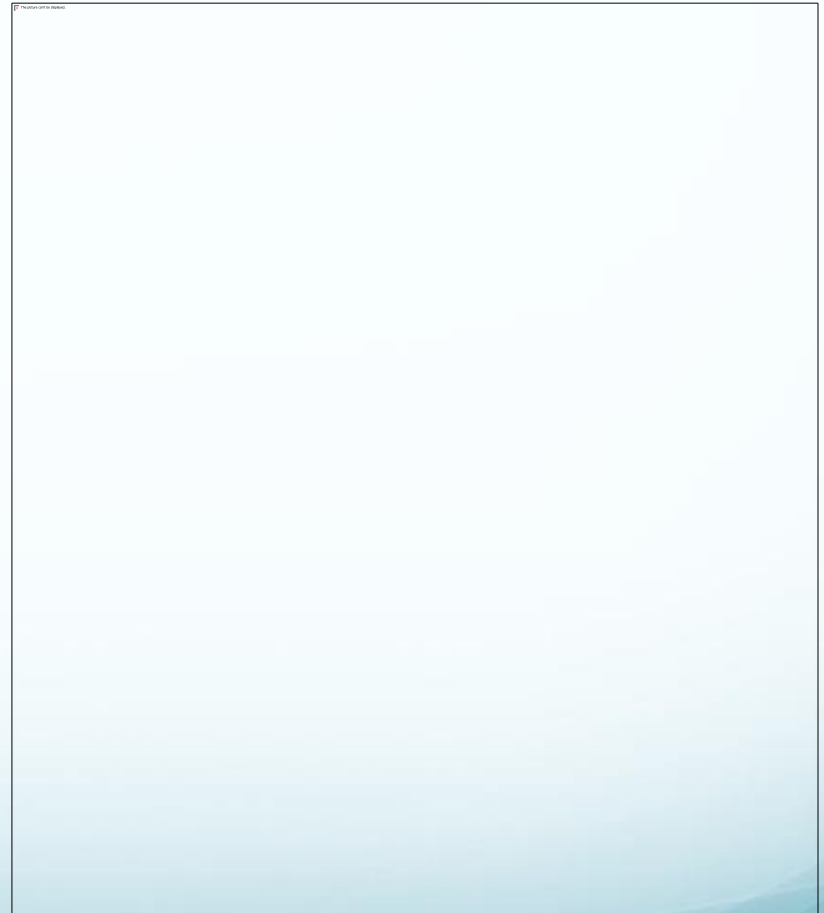


Babesia

- Symptoms of babesiosis are similar to those of Lyme disease but babesiosis more often starts with a high fever and chills. As the infection progresses, patients may develop fatigue, headache, drenching sweats, muscle aches, chest pain, hip pain and shortness of breath (“air hunger”). Babesiosis is often so mild it is not noticed but can be life-threatening to people with no spleen, the elderly, and people with weak immune systems. Complications include very low blood pressure, liver problems, severe hemolytic anemia (a breakdown of red blood cells), and kidney failure.

Golfing

- How to prevent tick bites when golfing
- Ticks can spread disease, including Lyme disease. Protect yourself:
- Use insect repellent that contains 20 - 30% DEET.
- Wear clothing that has been treated with permethrin.
- Take a shower as soon as you can after coming indoors.
- Look for ticks on your body. Ticks can hide under the armpits, behind the knees, in the hair, and in the groin.
- Put your clothes in the dryer on high heat for 60 minutes to kill any remaining ticks.



Jimmy Walker

- Months after capturing his first major title, Jimmy Walker started dealing with intermittent bouts of fatigue. He struggled to find a source for his condition, but now has an answer.
- Walker told reporters Wednesday at the Valero Texas Open that he has tested positive for Lyme disease. While he has noticed symptoms for the past few months and originally thought he might have mononucleosis, Walker got the official diagnosis the day before the opening round of the Masters, where he tied for 18th.
- "I think I've had it for, you know, a little while now. I haven't really felt good since Thanksgiving," Walker said. "How long I've had it, I don't know. I know I haven't felt great since about then. So been talking to some doctors, trying to figure out the course of action to take and get on some meds to get it going in the right direction."

Famous People

- **BEN STILLER**

- The actor was first diagnosed with Lyme disease in 2010 — he suspects he contracted the illness on a trip to Nantucket, Massachusetts. "I'm symptom-free now," Stiller told *The Hollywood Reporter* in 2011, "but Lyme doesn't ever leave your system. It's a really tough thing."

- **ALEC BALDWIN**

- . "I really thought this is it, I'm not going to live," he said of his condition. "I was alone, I wasn't married at the time, I was divorced from my first wife. I was lying in bed saying, 'I'm going to die of Lyme disease,' in my bed and 'I hope someone finds me and I'm not here for too long.' "

Famous People

- **SHANIA TWAIN**

- As a legend in the country music world, Twain kept vocal struggles under the radar so as to not worry her fans. Her singing voice — which she's had to regain and retune from the damaging effects of dysphonia, [the result of Lyme disease](#) — is improving. “I was very scared for a little while that I wouldn't sing again, ever,” she told PEOPLE. “I went through that moment, but I found a way. I found a way to do it.”

- **GEORGE BUSH**

- Regardless of whatever one may think of his presidency, **G.W. Bush** was nevertheless a high profile case of Lyme. Back in 2007, the [White House disclosed](#) that former president Bush had been treated for Lyme in 2006. It had been detected early and eradicated, but the details of Bush's treatment protocol were not divulged

Back Yard Safety

- Remove leaf litter.
- Clear tall grasses and brush around homes and at the edge of lawns.
- Place a 3-ft wide barrier of wood chips or gravel between lawns and wooded areas to restrict tick migration into recreational areas.
- Mow the lawn frequently.
- Stack wood neatly and in a dry area (discourages rodents).
- Keep playground equipment, decks, and patios away from yard edges and trees.
- Discourage unwelcome animals (such as deer, raccoons, and stray dogs) from entering your yard by constructing fences.
- Remove old furniture, mattresses, or trash from the yard that may give ticks a place to hide

USING MICE FOR CONTROL

- The folks at [Houselogic.com](https://www.houselogic.com) have an interesting way to tackle your tick problem. They suggest getting mice to do the work for you. Create "tick tubes" by stuffing cotton balls soaked in pesticide into toilet paper tubes. Leave several of the tubes in your yard for rodents to discover. Mice will use the cotton to build their nests all over your yard, killing ticks in the process. They suggest you use a chemical called Permethrin, which kills ticks but are safe for the mice.

How to remove a tick

- If a tick is attached to you, use ne-tipped tweezers to grasp the tick at the surface of your skin.
- Pull the tick straight up and out. Don't twist or jerk the tick—this can cause the mouth parts to break off and stay in the skin. If this happens, remove the mouth parts with tweezers if you can. If not, leave them alone and let your skin heal.
- Clean the bite and your hands with rubbing alcohol, an iodine scrub, or soap and water.
- Best small tool for tick removal is at lee valley tools

Tick bites and tick-borne diseases are completely preventable

- There's really only one way you get a tick-transmitted disease and that's from a tick bite. Reducing tick abundance in your yard where you spend a lot of time, wearing tick repellent clothing everyday, treating pets every month with tick repellent spot-on products, getting into a habit of doing a quick body scan for attached poppy-seed sized or larger ticks, and pulling ticks off quickly and safely are all great actions for preventing tick bites. These days, ticks are more than just an annoyance. One bite can make you sick, even change your life!

Thank you for listening

