

Increased Lyme disease potential in western and southwestern Oregon

BY TIM GONZALES

Lyme disease, the most commonly reported vector-borne disease in the US, is a disabling infectious disease carried by the western black-legged tick, also known as the deer tick (*Ixodes pacificus*) in our region. Formerly an East Coast problem, infected ticks have increased locally.

The disease is a result of becoming infected by the bacterium *Borrelia burgdorferi*. The tick bites its meal host—typically deer, pets, livestock, and humans—and begins to draw blood. Tick bites can go undetected due to an anesthetic agent secreted by the tick, giving the bacterium time to be transmitted to the host. Left unchecked, Lyme disease can attack joints, the nervous system, and the heart. Lyme disease can be fatal, but rarely is. Signs and symptoms include fatigue, chills and fever, headache, muscle and joint pain, swollen lymph nodes, and sometimes a bull's-eye red rash called

erythema migrans (see photo, bottom left).

Adult ticks climb onto grasses and wait for a blood meal to pass by. They can smell their prey and attach themselves to travelers as they brush against the grass. Western Oregon and northwestern California have areas of dense vegetation with tall grasses growing in open areas. Deer, pets, and humans walk along paths on their way through the woods. Ticks, through evolution, have adapted to migrate to travel routes and populate areas where food is most abundant. Forest visitors should avoid tall grasses and frequently brush off their pant legs while hiking.

Ticks often bite forestry workers, loggers, reforestation crews, firefighters, and farmers. Visitors to forests and parks can also become victims. Recreational visitors such as hunters, fishers, campers, hikers, mushroom collectors, and even picnickers, can encounter ticks. Even activities like mowing the lawn and weed trimming expose one to ticks.

Prevent tick bites

Thorough prevention and inspection procedures should follow every visit outdoors. Blousing (securing) light-colored pants at the ankles, wearing long sleeves, applying tick repellent, and conducting comprehensive tick checks periodically can prevent a tick bite. Changing clothes daily and washing the old clothing in hot water also helps. Showering may wash ticks out of one's hair.

Many people are bitten by ticks in

their home when pets bring them in. Tick collars and regular brushing and bathing of your pets can reduce the number of pests a pet brings inside.

If you are bitten, extract and collect the tick for testing. Have a container and tweezers handy. Attach the tweezers to the tick as close to the skin as possible, and pull it straight out (see diagram at right).

Local statistics

Although local lab statistics report that approximately two percent of deer ticks have tested positive for *Borrelia burgdorferi* since January 2011, I have found my small sampling to be higher. At that time I inherited a progressive tick collection and testing program for local Bureau of Land Management and US Forest Service employees. In my first two years on the job, I had to inform six federal employees that *their* tick was infected. My attention was heightened, and I began compiling my own statistics. Two California labs were used to test the ticks: Igenex Lab in Palo Alto, and Sonoma County Public Health in Santa Rosa. The table below shows the results of my observations.

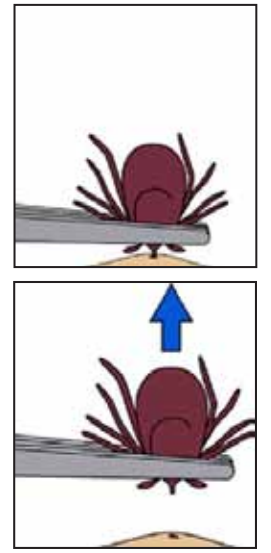
According to the American Lyme Disease Foundation, some New England states report that up to 50 percent of collected ticks test positive for the bacterium that causes Lyme disease. They also report that black-legged tick populations

in Pacific coastal states are infected between two and four percent.

Although my sample size is limited, it is obvious that there is between a two percent to over nine percent chance that the deer tick you get bitten by locally is infected. Therefore, it is imperative that we remain vigilant regarding tick bite prevention. If you are bitten, *don't lose the tick!* Take the tick to Jackson County Vector Control at 555 Mosquito Lane, Central Point, Oregon, for identification. If the tick is an *Ixodes pacificus* they will give you directions to get the tick to one of the labs in California.

If you experience signs or symptoms of Lyme disease such as the bull's-eye rash, visit your doctor as soon as possible and assertively pursue immediate treatment.

Tim Gonzales • 541-618-2115
US Forest Service
Forest Safety Manager
Rogue River-Siskiyou National Forest
timothygonzales@fs.fed.us



With tweezers, pull tick straight out.



Bull's-eye red rash is a sign of Lyme disease.

YEAR	POSITIVE	NEGATIVE	TOTAL TESTS	PERCENT POSITIVE
2011	1	11	12	8.3
2012	5	23	28	17.8
2013	2	24	26	7.7
2014	1	24	25	4
TOTALS	9	82	91	9.9

Canine Lyme disease: Daisy's story

BY CAROL HOON

Beginning last October, we had been treating Daisy, our Labrador retriever, for kidney failure holistically. She responded so beautifully and stayed on top of it for several weeks before her kidney markers began to creep back up. Acupuncture, acupressure, herbs administered orally, herbs administered rectally, hot and cold therapy, vitamin C intravenous therapy to flush the kidneys—none of these were successful. The numbers continued to creep dangerously higher.

I believe in natural healing and the body's ability to return to a state of balance, given the conditions to do so. So given that this dog was drowning in herbs and immersed in a positive environment of healing, why were the kidneys continuing to fail? Our veterinarian suggested an autoimmune disorder or an infectious process. A tick-borne profile and Lyme serology were run on Daisy's blood, and came back positive for Lyme disease the first week of January. How could anyone have known? She presented with acute kidney failure. Now we were dealing with



Daisy continues to beat the odds against Lyme disease.

Lyme nephropathy (doctor-speak for kidney disease due to Lyme).

The symptoms of Lyme are so very subtle and can easily be mistaken for something else. Primarily, you may see recurrent lameness of the limbs due to joint inflammation, lack of appetite, decreased energy, and possibly depression. The lameness can last for just a few days and then recur days or weeks later or not recur at all. It will also shift quickly from leg to leg, causing disagreement among family members over which leg is the injured one. It was way back in late spring of last year when Daisy exhibited these signs of stiffness in her front legs, but they were short-lived, were attributed to

overexertion, and soon forgotten in the rush of spring planting and work. If only our four-legged friends could tell us what they were feeling, treatment would be so much easier.

If treated quickly, your dog has an excellent chance of survival. If you miss it, like we did, and are months past what might have been initial exposure, you may be left with the fallout of kidney failure. At a very basic level, the Lyme spirochete (bacterium) is a tricky master of camouflage and disguise. It continually changes its appearance and its outer surface proteins in order to evade the host's antibodies, thereby forcing the host to create new antibodies. The immune system is then constantly attempting to fight the ever-changing spirochete, and over time these accumulated groups of antibodies deposit in the kidneys, causing damage to the nephrons. The nephrons are the tiny filtering units in your kidneys; it is believed that each kidney contains one million nephrons. It's an extremely complicated system, probably beyond mankind's comprehension, but, thanks to Daisy, we have renewed our basic understanding.

Tick control is, of course, your best defense. We have always tick-checked our dogs daily and after walks in the woods.

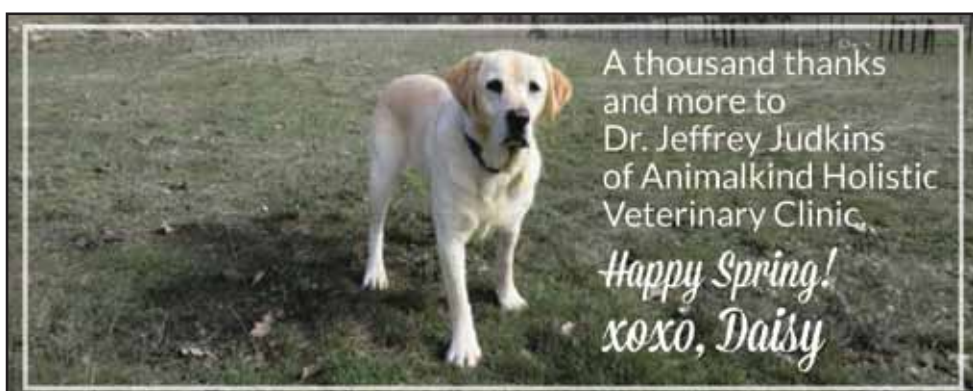
The vast majority of ticks we take off our dogs never have a chance to begin feeding. It still surprises me that one Lyme-carrying tick infected our dog. It is thought that if a tick is removed within 48 hours after attaching, the spirochete cannot be transmitted and the host will not become infected. Other sources say you have only 16 hours. There is no consensus on many aspects of Lyme disease, including vaccine efficacy. Vigilance and acting quickly at the first sign of symptoms are of utmost importance.

We're extremely fortunate

because we have a dedicated and amazing veterinarian, who saved Daisy's life last October. She was in acute kidney failure, and we were able to pull her through with herbs and acupuncture and keep her going while searching for the cause. She is doing well, and we remain hopeful that she can beat the odds. I believe she can because, for me, healing is simple: Stop doing what is making you sick and start doing what will heal your body.

Send some healing thoughts Daisy's way, and here's hoping the only Lyme you encounter is spelled with an "i" and adorns the rim of your margarita glass.

Carol Hoon • 541-787-7261
orcarolhoon@gmail.com



A thousand thanks and more to Dr. Jeffrey Judkins of Animalkind Holistic Veterinary Clinic.
Happy Spring!
xoxo, Daisy



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