# Ticks Hate This More Than Chemicals and It's Not Toxic

With tick-borne diseases expected to spread as fast as ever this season, all pet owners must be on the alert over the next few months. Don't rely on pesticides though, they're becoming less and less effective. Instead, do this - your pet will thank you for it.

**Analysis by Dr. Karen Shaw Becker**

## STORY AT-A-GLANCE

- Warm weather is upon us, which means that in most parts of the U.S., pests will soon be upon your pets
- Lyme-carrying ticks have expanded their range, and cases of the tick-borne diseases anaplasmosis, ehrlichiosis and babesiosis are expected to increase
- One of the reasons tick-borne illness is on the rise is that ticks have developed a resistance to pesticides
- Giving pets ever-stronger doses of toxic pesticides on a monthly basis year-round is not a guarantee against tick-borne illness. Many dogs vaccinated for Lyme disease and who are also on monthly chemical preventives are still acquiring tick-borne infections
- Avoiding tick-infested areas, checking your dog daily for ticks, and having his blood checked every six months is the most common sense, safe, and nontoxic approach to keeping him free from potentially devastating tick-borne diseases

***Editor's Note: This article is a reprint. It was originally published June 01, 2016.***

The weather is quickly warming up, and dog and cat parents across the U.S. are wondering what to expect over the next few months when it comes to pests that pester their pets.

The Companion Animal Parasite Council (CAPC) predicts the following tick-borne disease risk areas for 2016:[1]

- Ticks that transmit Lyme disease have expanded their range and become established in Illinois, Iowa, Indiana and Kentucky. However, New England, which has traditionally been in the "bulls-eye of Lyme disease," is forecasted to see below normal activity.
- Texas, Oklahoma and Missouri are expected to have higher than normal ehrlichiosis activity. Increased risk is also forecast for southern California and throughout the southeast, especially east of the Mississippi River.
- Ticks that transmit anaplasmosis are expected to be a problem in northern California, New York state, western Pennsylvania and West Virginia.

The CAPC also forecasts the number of heartworm infections to be above average nationwide, with expansion from the lower Mississippi River region into eastern Missouri, southern Illinois, and southern Indiana.

If you'd like information about the risk of tick-borne diseases in your area, take a look at the CAPC's Parasite Prevalence Maps. The maps are broken down by disease, by dog or cat, by state, and by county.

## Increased Use of Chemical Pest Preventives Isn't the Answer

While the CAPC website is a great information resource, it's important to note that veterinary drug manufacturers sponsor the council.[2] As a result, you'll find a recurring theme throughout the site of "Every Pet, All Year Long."

This is a one-size-fits-all recommendation I don't agree with that involves year-round chemical preventives for every dog and cat, without regard to where the animal lives, when pest season starts and ends, whether a given disease is prevalent in a given species, and with no acknowledgment that ticks have developed resistance to pesticides thanks to decades of overuse.

Every year I see canine patients who have been given monthly doses of pesticides for years, yet turn up positive for tick-borne illness, including many dogs with Lyme disease that have been vaccinated against it.

The fact is that pest preventives and the reactive Lyme vaccine aren’t as fool-proof as most pet owners have been led to believe.

## Why Tick-Borne Disease Is Now so Common in Dogs

There are several reasons for the epidemic of tick-borne diseases we're experiencing across the U.S. First of all, ticks are resilient little parasites. They were once only a problem in certain areas of the country, but now they are found across the U.S., which means they're expanding their turf.

There's also the problem of pesticide resistance in ticks. For the last 50 years, we've seen progressively more toxic options for tick control. Dogs are getting monthly doses of chemicals year after year, yet they're still testing positive for tick-borne diseases.

Although chemical preventives may reduce the sheer number of ticks that attach to a dog, the ticks that do attach still carry disease.

It's a given the pesticides we're applying at unprecedented rates to our dogs are causing resistance in parasites, and yet they are not one hundred percent effective at preventing tick attachment or disease transmission.

Another reason tick-borne diseases are on the rise is that insects other than ticks — specifically mosquitoes — have been found to transmit some of these potentially lethal infections.

## One Tick Bite Can Transmit Multiple Tick-Borne Diseases

Ticks pick up pathogens from infected wildlife. In the case of Lyme and **babesiosis**, mice and chipmunks are the primary reservoirs. Ticks that attach to these animals are much more likely to be co-infected, according to one recent study.[3]

Some of the ticks sampled for the study were infected with three pathogens — Lyme, babesiosis, and anaplasmosis. According to the study’s co-author, Richard Ostfeld, Ph.D. of the Cary Institute of Ecosystem Studies:

> *"Mice and other small mammals are often particularly abundant in habitats that have been fragmented or degraded by human activity. That means these patterns of co-infection might get worse through time as humans continue to impact forest ecosystems."*[4]

The study authors warn that people living in tick-infested areas of the country, including the northeast, mid-Atlantic, and upper Midwest, are potentially vulnerable to exposure to two or three diseases from a single tick bite. The public and health care providers need to be on the lookout for the possibility of multiple infections.

I would add the same warning applies to pets living in those areas as well. Fortunately, the SNAP 4Dx Plus and the Accuplex4 tests screen for heartworm, Lyme disease, and two strains each of ehrlichia and anaplasma, but they don't pick up Babesia.

So I would recommend that pets living in tick-infested areas who test positive on the SNAP 4Dx Plus or the Accuplex4 also be screened for Babesia exposure. The best way to detect exposure to this parasite is with a PCR (polymerase chain reaction) test that checks for the presence of Babesia DNA.

Remember, if your pet tests positive for exposure, it's important to follow up with the Quantitative C6 (QC6) test, which differentiates exposure from infection.

I see dozens of dogs each year unnecessarily treated with extensive antibiotic therapy because their veterinarian panicked after seeing a positive exposure. Please don't let your vet do this!

Up to 90% of dogs on the east coast may have exposure to these pathogens, but to know if the body is actively fighting an infection, a QC6 must be performed. Thankfully, most dogs' immune systems fight off these infections all on their own.

But for the unlucky dogs who can’t fight off these infections, the sooner we identify them, the sooner we can devise a treatment plan. This is why I recommend that my clients living in endemic areas test their pets every six months.

While only certain laboratories run this type of testing, it is really the best method for confirming a Babesia infection.

## Preventing a Tick-Borne Infection in Your Pet

- Check for ticks daily, and don't overlook areas of your pet's body where ticks can hide, like between the toes, the underside of the toes, in the earflaps and around the tail base.

  Research demonstrates that ticks must be attached to your dog for at least 24 hours in order for most disease-causing bacteria to be transmitted from the tick to your pet. That's why daily tick checks and removing ticks immediately are a huge part of reducing your dog's risk of acquiring a tick-borne disease.

  If you prefer to err on the side of extreme caution, you can check your pet for ticks each time he may have been exposed (in other words, each time he visits an area outdoors that may harbor ticks). This is hands-down the safest and entirely nontoxic method of tick prevention.
- Use natural tick deterrents. There are dozens on the market, and although none of them will prevent 100% of tick bites 100% of the time, they may make your dog a less desirable target. Reducing the number of ticks on your dog by 50% to 80% is most certainly better than nothing, in my opinion.
- Focus on creating a healthy body. Unhealthy bodies tend to be over-parasitized. Healthy animals may have an occasional tick, but creating a vibrantly strong immune system through a balanced, fresh food diet, titering, and minimizing chemical exposure will help keep your pet safe.

- If you find a tick on your dog, be sure to remove it correctly. Don't use your bare hands because you can become infected by handling or crushing an infected tick. Wear gloves, or even better, use a tick-removing tool.

  Grasp the tick very close to your pet's skin with a tick removal tool or a pair of tweezers. Carefully pull the tick's body away from the skin. Once it's off, flush it down the toilet. Then disinfect your dog's skin with soapy water or diluted povidone iodine (Betadine). I also recommend applying a drop of lavender oil to the bite.

  Monitor the attachment site for the next few days. If you notice any irritation or inflammation of the skin, contact your veterinarian.
- Have your dog tested for tick-borne diseases no earlier than three to four weeks after removing a tick. The type of test to ask your veterinarian for is the SNAP 4Dx or Accuplex4 test, which is a screening blood test. If you don't have the 4Dx or Accuplex test done, you'll want to watch your dog closely for several months for any signs of loss of appetite, lethargy, change in gait, fever, intermittent limping — all the symptoms of potential tick-borne disease.

And keep in mind that waiting until a dog exhibits symptoms isn't the most proactive approach. I have found tick-borne diseases substantially harder to treat once a dog is overtly ill. The period of subclinical infection (when the dog has no symptoms) is when integrative practitioners see excellent treatment success.

Checking your dog externally for ticks and having his blood checked regularly (I recommend every six months) for silent infections is the very best approach to keeping your pet safe from potentially devastating tick-borne diseases.

## Sources and References


Boston Globe March 31, 2016

[1] Companion Animal Parasite Council

[2] CAPC Sponsors

[3] PLOS One, June 18, 2014

[4] Cary Institute