Lyme Disease Prevention: Know Your Options, Protect Your Dog

By: Julia Henriques - Reading Time: 12 minutes

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Ticks are out and about! After a mild winter and now a warm early spring in many parts of the country, it's suddenly tick season. If you and your dog enjoy a romp in long grassy or wooded areas, your dog (and you) can pick up these disease-transmitting parasites. They may even be lurking in your back yard. Last weekend I grabbed a couple that were starting to crawl on my dogs, and I picked some off my own arms too.

Ticks are disgusting creepy-crawlies at any time – especially if they attach to your dog (or you) and become engorged with blood. But they're also dangerous.

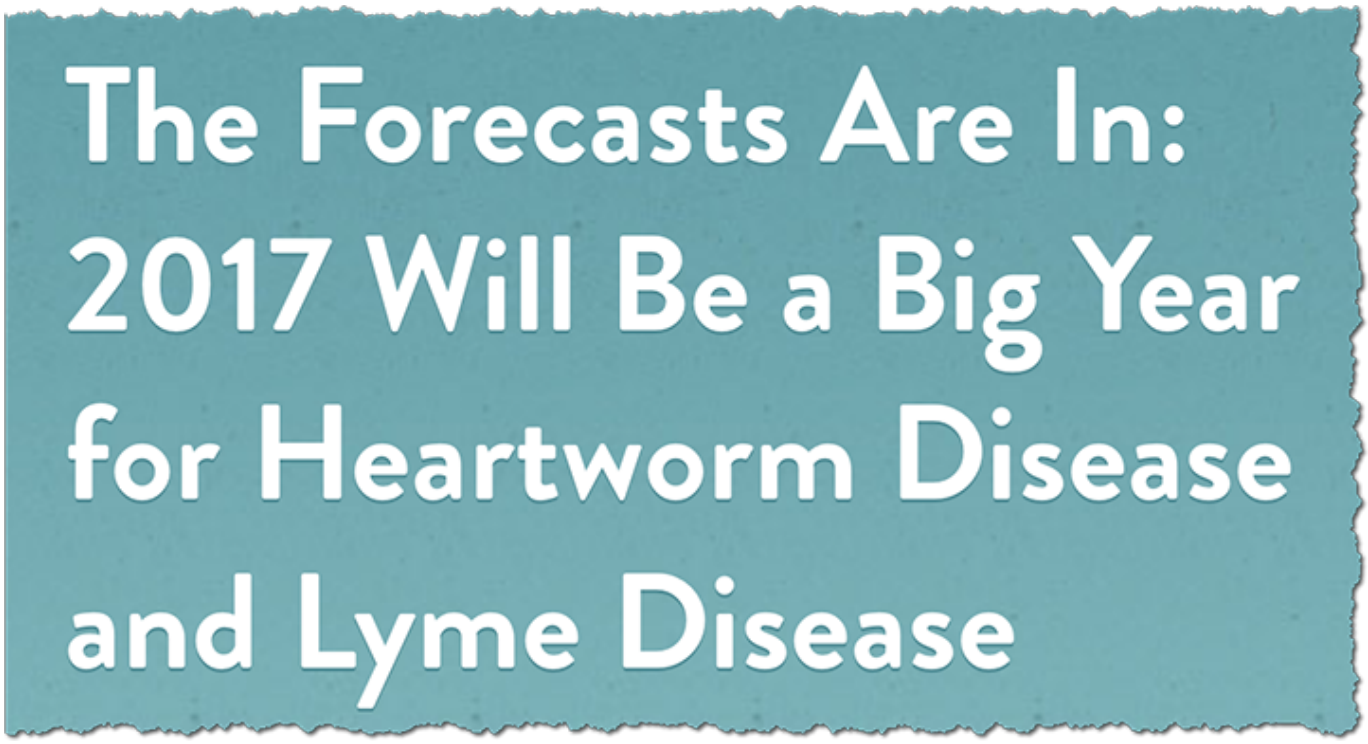
They can transmit Lyme disease as well as other illnesses like erlichiosis, babesiosis, Rocky Mountain spotted fever, anaplasmosis, bartonellosis … the list seems to get longer each year.

The American Veterinary Medical Association (AVMA) has named April “Prevention of Lyme Disease In Dogs Month” … and we’re all for preventing Lyme disease … but not using the pharmaceutical products the AVMA suggests.

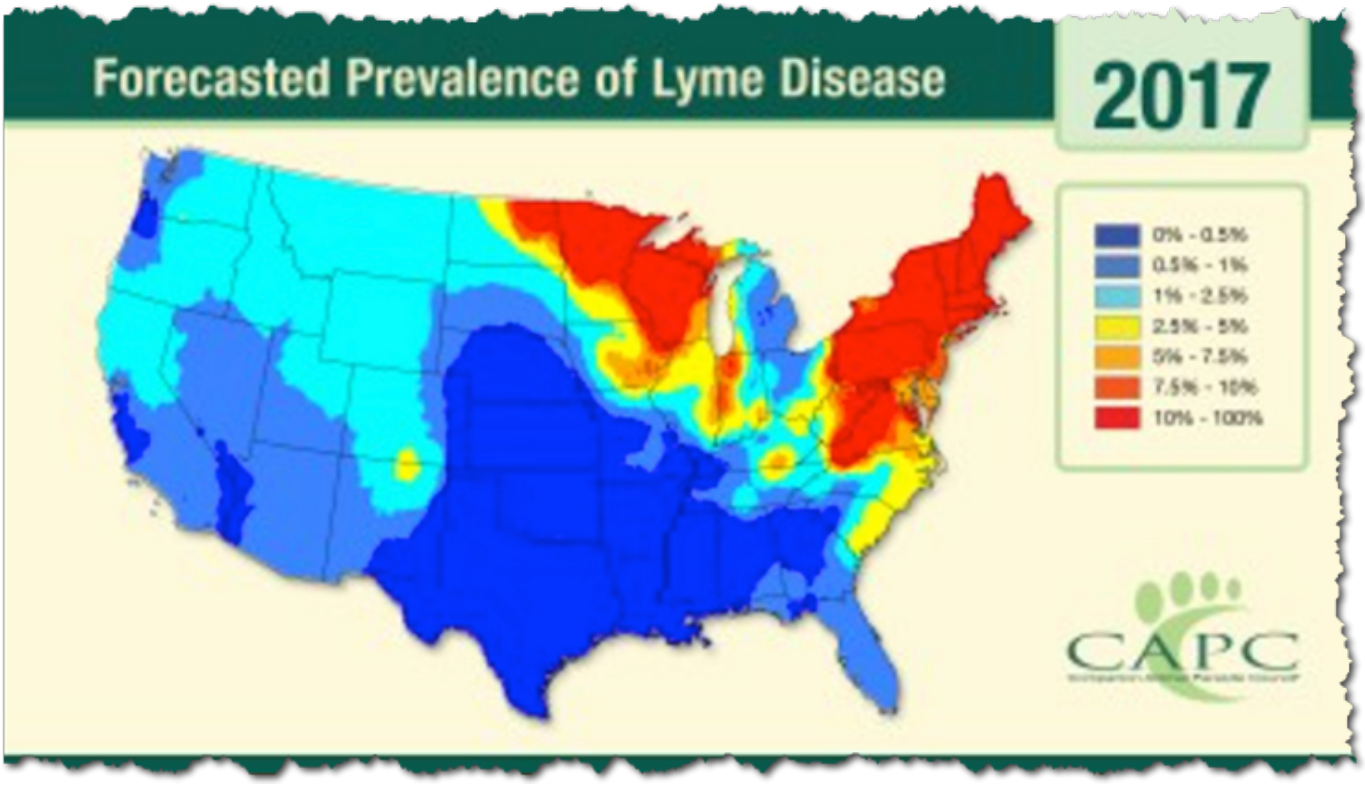
First, take a look at the risk where you live.

Where Is Lyme Disease Prevalent?

The Companion Animal Parasite Council (CAPC) declares on its home page:



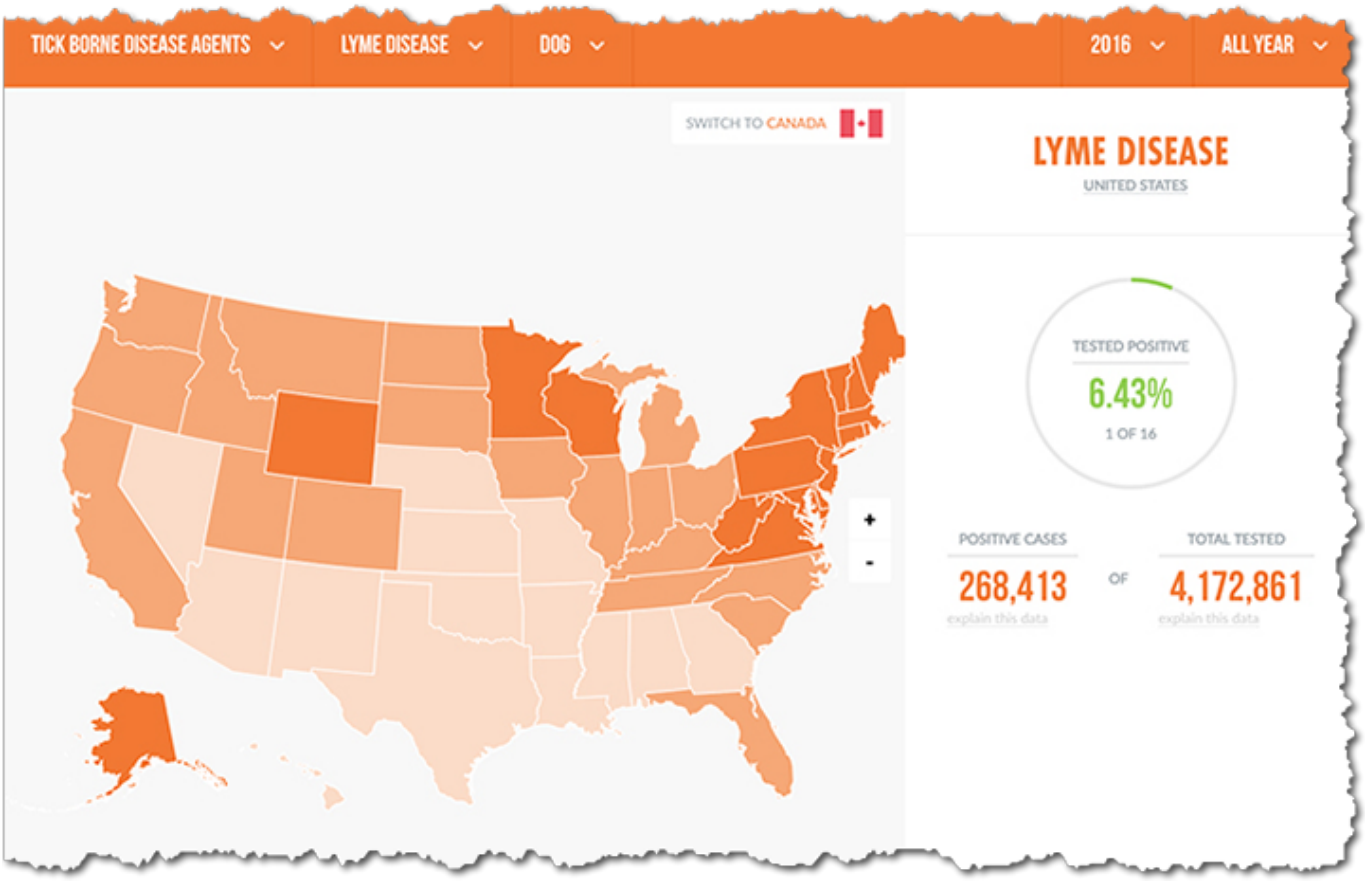
CAPC’s map shows the forecasted prevalence for 2017



According to CAPC, endemic areas for Lyme disease are not only expected to experience higher caseloads this year, but are now expanding beyond the northeastern and central Midwestern US to include Western Pennsylvania and Pittsburgh, as well as the following states:

- The Dakotas
- Iowa
- Missouri
- Southern Illinois
- Ohio
- Kentucky
- Tennessee
- North Carolina

The map below shows Lyme disease cases in dogs for the year 2016



By the way, tick disease is scary but there's another reason for all this alarming data. CAPC is sponsored by … Idexx Labs plus a bunch of pharmaceutical companies – all of whom stand to gain from getting the pet owning population riled up about the dangers of tick disease (as well as heartworm and intestinal parasites). CAPC encourages year round tick protection as well as vaccination against Lyme disease.

So … just in case you're thinking about using some of these pharmaceutical companies' pest control products, let's talk about why you should think twice about doing that. And then we'll tell you about some safe and effective natural alternatives.

(Here's another great article with more natural solutions to help protect your dog this tick season.)

Dangers Of Pharmaceutical Tick Products

These are the primary ingredients found in popular spot-on pest control products, and the reasons why it's best to avoid using them on your dog.

Fipronil

Fipronil is the primary active ingredient in products like Frontline Plus, PetArmor, Sentry and FiproGuard.

- The Environmental Protection Agency's (EPA) Pesticide Division has found that fipronil enters the body and can be contained in the fat, organs, urine and feces of

dogs.

- Pets treated with fipronil have developed skin irritation, lethargy, incoordination, dilated pupils, facial swelling and convulsions
- Fipronil can also cause nervous system and thyroid toxicity, thyroid cancer, altered thyroid hormone levels, liver toxicity, kidney damage, whining, barking, crying, loss of appetite, locomotor difficulty, reduced fertility, fetus mortality, smaller offspring, loss of hair at or beyond the point of application, moist inflammation, chemical burn and itching
- The EPA classifies fipronil as a potential carcinogen because it has caused benign and malignant thyroid tumors in laboratory animals.
- One of fipronil's breakdown products (fipronil-desulfinyl) is ten times more toxic than fipronil itself.
- Scientists at Murray State University found that people can be exposed to fipronil when they pet an animal that's received a treatment. Fipronil persists for at least 56 days on pets.

Pyrethrins and Pyrethroids

This group of ingredients include permethrin, penothrin, etofenprox, fenvalorate. Permethrin and etofenprox are in BioSpot Active Care Spot-on and K9 Advantix II contains permethrin.

Most people consider the natural alternative, the pyrethrins (naturally occurring compounds from the chrysanthemum plant) and pyrethroids (the synthetic counterpart), as less hazardous than fipronil. But that's not the case. CPI, the Center for Public Integrity, found that from 2002 through 2007 at least 1,600 pet deaths from pyrethroid spot-on treatments were reported to the EPA. In addition:

- An EPA survey of poison control centers found pyrethrins cause more insecticide poisoning incidents than any other class of insecticides except the organophosphates. Symptoms include headaches, dizziness, and difficulty breathing.
- Pyrethrins can trigger life-threatening allergic responses including heart failure and severe asthma, brain damage and seizures.
- Pyrethrins can cause anemia and disrupt the normal functioning of sex hormones.
- The EPA classifies pyrethrins as "likely to be human carcinogens" because they cause thyroid tumors in laboratory tests. Farmers who use pyrethrins have an increased risk of developing leukemia.

Imidacloprid

Imidacloprid is in Advantage II and K9 Advantix II as well as the very popular Seresto Flea and Tick Collar.

- It's a systemic insecticide that acts as an insect neurotoxin and belongs to a class of chemicals called the neonicotinoids. Neonicotinoids are a class of insecticides acting on the central nervous system of insects. Despite the claim of lower toxicity for mammals, it's still a neurotoxin!
- In laboratory animals, symptoms of acute (short-term) oral exposure to imidacloprid included: apathy, labored breathing, loss of the ability to move, staggering, trembling, and spasms. Some symptoms lasted for five days following exposure.
- Also in laboratory animals, symptoms of breathing imidacloprid (for four hours) included difficulty breathing, loss of the ability to move, and slight tremors.

Amitraz

This ingredient is used in flea and tick collars like Preventic®.

- It kills ticks by interfering with their nervous systems and can be deadly to dogs if they eat their tick collar!
- Other side effects include low blood pressure, decreased body temperature, high blood glucose, dilated pupils, slow heart rate, vomiting, diarrhea or seizures.
- Amitraz has also been classified as a potential carcinogen.

Convenient Oral Preventives?

There are three fairly new drugs in the category of oral flea and tick preventives:

- Nexgard

- Bravecto
- Simparica

Nexgard (active ingredient afoxolaner) and Bravecto (fluralaner) were approved in the US in late 2013 and early 2014. Simparica (sarolaner) was introduced in March 2016.

These handy chewable drugs are designed to be taken every month or three months. And while that may sound convenient, it's a big problem.

The drugs work by destroying the insects' nervous systems … and if they're deadly for fleas and ticks, think about what they can do to your dog. And once your dog takes one of these drugs, if he has any side effects, you can't remove it from his body … it stays in his bloodstream for weeks or months.

Even though these drugs haven't been available for long, there are already reports of many side effects for both Nexgard and Bravecto (Simparico is too new for there to be any reports). For just a three month period from January through March 2016, several hundred cases of vomiting were reported for each drug. Other common side effects reported are lethargy and diarrhea. Seizures are quite high on the list, with 22 each reported for both Nexgard and Bravecto. Nine deaths are reported for each drug for the same period. For Nexgard, five of the nine deaths were by euthanasia.

Read more about the risks of these drugs.

So, it's pretty clear that these products carry high risks for your dog and even for you!

Ingredient Summary

The chart below summarizes the anti-tick ingredients, common side effects and which product they're found in.

Note: some of these products also repel fleas and other biting insects so may contain other active ingredients not included below.

Tick Protection Ingredients	Contained In	Common Side Effects
Imidacloprid	K9 Advantix® II, Advantage® II, Seresto® Flea & Tick Collars	Apathy, labored breathing, loss of the ability to move, staggering, trembling spasms, anemia, disrupts the normal functioning of sex hormones
Fipronil	Frontline® Plus, FiproGuardTM, PetArmor®	Skin irritation, lethargy, incoordination, dilated pupils, facial, convulsions, nervous system and thyroid toxicity, hormone disruption, liver toxicity, kidney damage, potential carcinogen
Pyrethrins and pyrethroids	BioSpot® Active Care Spot On for Dogs (etofenprox), K9 Avantix®	Vomiting, seizures, heart failure, brain damage, hormone disruption
Amitraz	Preventic® tick collars	Low blood pressure, decreased body temperature, high blood glucose, dilated pupils, slow heart rate, vomiting, diarrhea or seizures. Potential carcinogen
Fluralaner	Bravecto	Vomiting, lethargy, diarrhea, seizures, death
Afoxolaner	Nexgard	Vomiting, lethargy, diarrhea, seizures, death

What About The Lyme Vaccine Your Vet Recommends?

Many vets, especially in Lyme-endemic areas, highly recommend the Lyme vaccine. But it's a high risk vaccine that can itself cause Lyme disease symptoms.

Humans are actually much more susceptible to illness from Lyme infection than dogs are, and yet there's no Lyme vaccine for humans. Ever wonder why your dog can get a Lyme vaccine but you can't?

Well, in the 1990s a Lyme vaccine, LYMErix, was developed for humans. But only four years after it was introduced, the manufacturer (Smith Kline Beecham – now Glaxo Smith Kline) withdrew the product, citing low demand. However, the real reason was almost certainly the adverse events associated with the vaccine. These included arthalgia, myalgia, pain arthritis, arthrosis, rheumatoid arthritis, facial paralysis, hypersensitivity reactions, thrombocytopenia, anemia, kidney compromise, heart disease and even some deaths – and one suicide.

Lyme Vaccines For Dogs

Despite the problems with the human Lyme vaccine, there are several Lyme vaccines for dogs on the market and they are just as risky for dogs as they were for humans.The vaccine itself can cause Lyme disease symptoms, and may also cause autoimmune disease in some cases.

According to holistic veterinarian Patricia Jordan DVM, the vaccine in this case is worse than the disease itself.

“The Lyme vaccine was never safe. The adverse events that occurred in people are happening to dogs every day but not recorded.

“There are cases of Lyme vaccinations given, the dog subsequently dying from Lyme nephritis (kidney disease) but no infective bacteria being retrieved. Why is this? It is caused by the action of the immune system itself: the immune cells, reacting to the provocative antigens in the Lyme vaccines, are capable of causing the pathology of Lyme disease.

“There is no justification for taking this serious vaccination risk with our dogs. The Lyme vaccine is all risk and no benefit; there is a high chance of severe adverse events like a lifetime of non-treatable arthritis pain just for getting the jab in the first place.”

Even the *New York Times* wrote about the need for caution in using the Lyme vaccine for dogs, in an article in June 1991.

Dr Michael Garvey of the Animal Medical Center in New York said that within days or weeks after being vaccinated, some dogs suffer temporary Lyme-like symptoms, making him reluctant to use the vaccine in elderly patients or dogs with chronic disease.

The article also stated, “Scientists have also raised concerns about possible longer-term dangers. Evidence is growing that some ill effects of Lyme disease in humans are not caused by the bacterium directly, but by the responses to it of the body’s immune system — autoimmune effects — said Dr. Richard H. Jacobson, a veterinary scientist at Cornell University. In theory, he vaccine might promote similar effects over time, he said.”

Despite the fact that many veterinarians recommend and even push Lyme vaccines, it’s clear that there’s a high risk trade-off if you choose to vaccinate your dog against Lyme disease. And even if you do, it won’t protect against other tick-borne diseases that may be more common where you live.

The Best Prevention

So how do you protect your dog from Lyme disease as well as other tick-borne diseases? Prevention may be better than cure, but the best method of prevention is to keep the ticks off your dog!

Fortunately there are a number of natural alternatives to keep ticks, fleas and other biting insects off your dog. Keep reading to learn about some easy home remedies.