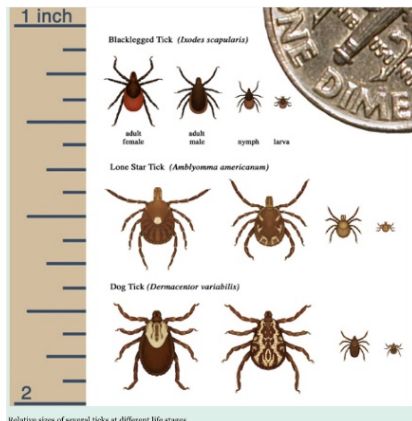


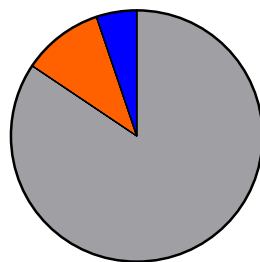
Tick-borne infections found in English Springer Spaniels

Tick-borne infections are found in all 50 states and are the most common vector-borne disease diagnosed in people in the US. The most common tick-borne disease is Lyme disease caused by *Borrelia burgdorferi*. Symptoms of Lyme disease include fever, loss of appetite, reduced energy, lameness generalized stiffness, joint swelling, and reddening of the white around the eyes. Other important canine vector borne diseases include *Anaplasma platys*, *Anaplasma phagocytophilum* (Anaplasmosis), *Dirofilaria immitis* (Heartworm) and *Ehrlichia canis*, *Ehrlichia chaffeensis* and *Ehrlichia ewingii* (Ehrlichiosis).



Lyme Disease is spread by *Ixodes* ticks carrying *Borrelia burgdorferi* bacteria. When an infected tick takes a blood meal from a dog, bacteria enter the blood stream and can cause disease.

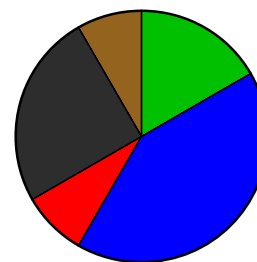
% English springer spaniels tested positive for tick-borne infection exposure (March 2018 results)



Total=77

- 84.42% English springer spaniels negative for tick-borne diseases
- 10.39% English springer spaniels exposed to 1 tick-borne disease
- 5.19% English springer spaniels exposed to 2 or more tick-borne disease

Types of tick-borne diseases English springer spaniels exposed to (March 2018 results)



Total=12

- 16.67% *Borrelia burgdorferi* only
- 41.67% *Anaplasma spp.* only
- 8.33% *Ehrlichia spp.* only
- 25.00% *Borrelia burgdorferi* and *Anaplasma*
- 8.33% *Borrelia burgdorferi*, *Anaplasma*, *Ehrlichia spp.*, and *Dirofilaria immitis*

Across the US, an average of 5% of hunting dogs were exposed to the bacteria which causes Lyme Disease based on a rapid diagnostic test (IDEXX 4Dx Snap Test). Using this same test, we found that **8% of English Springer Spaniels tested were exposed to Lyme Disease** (includes dogs that also tested positive for other tick-borne diseases).

What we can do to protect your English Springer Spaniels from tick-borne infections: 3 good options

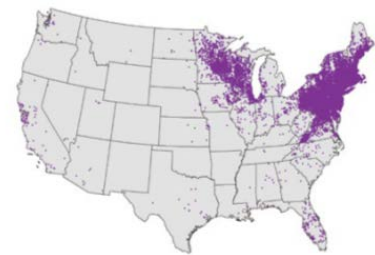
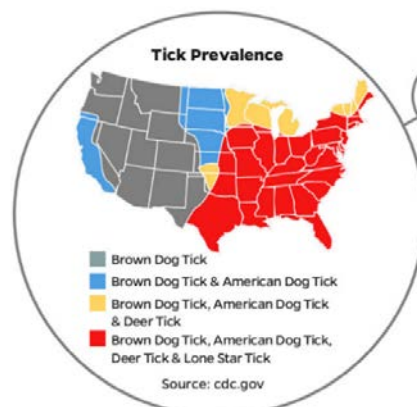


1

There are several vaccines available to prevent Lyme Disease in dogs. The vaccine is administered initially with a booster required in accordance with the product label; an annual booster is needed for as long as the risk for exposure remains. But, the vaccine only decreases signs of disease not infection with *Borrelia burgdorferi*, so tick specific prevention must be performed as well.

- 2 **Tick prevention is key in protecting dogs from tick-borne diseases.** Dogs get tick-borne illnesses when an infected tick bites and feeds on a dog, so preventing a tick from feeding by using a repellent is a good measure. A list of tick repellents and prevention tips can be found here: <http://www.akc.org/expert-advice/health/flea-tick/flea-and-tick-prevention-tips/>.
- 3 Although protected itself, a dog treated with tick repellent may still carry ticks into the kennel and introduce them to other hunting dogs. So **actively checking for ticks after being out in grassy or brushy areas is an important way to reduce the risk of introducing ticks into your kennels and homes.**

Regional distributions of tick species overlap and each species are able to carry multiple infectious agents. **Co-infection with multiple tick-borne pathogens is thought to increase severity and length of clinical disease.** Studies indicate that canine Lyme disease is exacerbated by co-infections, which can present as severe anemia, and can lead to death of the dog, or owner-elected euthanasia.



Lyme Disease



Ehrlichiosis



Anaplasmosis