



# HEALTHY, HAPPY PETS: DEFINING LYME WITHIN PETS

By Joyce Belcher

**L**YME: LYME DISEASE WAS FIRST named in 1975 in Lyme, Ct. when a significant number of children and adults were found to have a unique form of juvenile arthritis at 100 times the average. The researchers decided that it was probably a bacterial infection as penicillin shortened the duration (or symptoms) of the disease.

Lyme disease is caused by a

particular kind of bacterium known as a spirochete. Spirochetes have been around for billions of years longer than humans and are very smart. The word spirochete literally means “coiled hair.” The spirochete that causes Lyme disease is the genus *Borrelia burgdorferi*. While there are numerous *Borrelia* organisms that affect us and our pets, there are 3 main *Borrelia* that are considered to be the cause of Lyme Borreliosis. All of these cause a different Lyme-

type infection explaining why there are such different symptoms of the disease such as relapsing fever, joint degeneration and central nervous system disruptions of varying sorts.

Lyme spirochetes resemble a corkscrew shaped worm which is exactly what their action is, in order to enter into living tissues. This allows them to colonize in collagen around the joints, the eyes, and the brain for example. They’re particular about

what they eat as they are collagen feeders. Spirochetes are very difficult for researchers to work with which is why so little is known about them from a bacterial standpoint. Even after 60 plus years of bacterial research, they still can’t be grown in a lab. They’re also very thin which makes them hard to see under a microscope without unusual lighting and specific expensive equipment.

How do animals get Lyme disease?

The popular myth is that Lyme can only be transmitted by deer ticks, but deer are not the only host for infected ticks and there are many species of ticks and each prefers different hosts. Mice, rats, chipmunks etc., are all hosts.

Lyme spirochetes are not only passed through tick bites, once they infect people they can be found in breast milk, tears, semen, and urine. Animal testing for this has not been done to my knowledge at this time, but if we think about the similarity in most body functions of humans and dogs, even horses to some degree, why wouldn’t we believe this to pass the same way?

The spirochetes are passed primarily through particular ticks but what is unclear is how many other vectors can be possible candidates for transmission. Lyme Spirochetes have been found in biting flies, mites, mosquitoes and fleas. Transmission to humans thru biting flies has been documented in CT., while transmission

with mites has been documented in Germany. Direct transmission thru mosquitoes has not yet been documented but there is reason to believe that it does occur.

When a tick bites, the Interlukin21 levels are reduced through the components in the tick saliva. Astragalus is on one the indicated, perhaps even one of the most important herbs to use in the prevention of Lyme as it is specific for immune atrophy and increases Interlukin 2 levels. It also enhances function in spleen and thymus. Keeping these levels high may significantly reduce the likelihood of infection. Studies have found that during Lyme infection the higher the CD4 white blood cell levels, the

better the resistance the animal will have to the infection as well as a better response with treatment if already infected. Lower CD4 counts correlated to increased spirochete load. So you can see that Increased CD4 levels are essential for immune response.

Astragalus is one of many necessary herbs that are used successfully in the prevention and treatment of Lyme spirochetes. Others like *Andrographis* (also anti-spirochetal as is Japanese Knot Weed), *Smilax* and *Stephania Root* cross the blood brain barrier<sup>2</sup>. *Cat’s Claw* is an immune potentiator, a great general tonic for enhancing overall system health to aid in prevention of Lyme and is specific in Lyme arthritis.

Common Symptoms of Lyme in Dogs and Horses.

Behavioral changes like:

- Irritability
- Fatigue
- Brain fog
- Lack luster, not interested in work, stubborn
- Hyperactivity or spooks easily
- Loses interest in eating

Arthritic type symptoms are common, may be worse at or near a full moon. This may be an immune system response as well.

Preventative measures against Lyme are the way to go (as with any holistic approach to good health)

What can we do to help prevent Lyme in our dogs and horses?

I can’t stress enough how important it is to support our pets’ immune systems as the #1 preventative measure against any tick borne disease.

1. Lyme infection will bring the

immune system out of balance.

2. A healthy and balanced immune system will lessen the chance of damage or invasion by the spirochetes, but if the immune system is compromised or out of balance, the spirochetes will prevail, causing damage throughout the collagen in the body.

3. It's important that we support the liver as this is the organ that regulates the health of the collagen, i.e., connective tissue, ligaments, tendons, the feeding ground of the spirochete.

4. Using toxins such as spot-on chemicals that can directly and negatively affect the immune system and compromise the liver should be carefully thought out for a healthier alternative.

5. Effective herbs that support, balance the immune system and deter parasites are a safer, healthier choice.

6. We need to support and strengthen, not deplete and damage, in order to win the battle with Lyme.

7. It is necessary to use a complete body-system detox that moves and cleanses the lymphatic system, blood, liver, kidneys, promotes bile and removes heavy metals to assist the body during spirochete die-off.

### How can we balance our Dogs and Horses immune system for optimum protection?

- Species appropriate quality nutrition
- Immune Modulating Herbs & Superfoods-Liver Support
- Anti-Spirochetal herbs administered daily throughout tick season
- Essential oils blended into carrier oil for repellent applied regularly to their coat

### Herbs that will help to prevent as well as lower titers should have the following chemistry

Anti-spirochetal, anti-inflammatory, enhance immune function, immune modulating, protect heart muscle, protect and enhance liver function, clear infection from the body, cross the blood brain barrier, are anti-parasitic, nutritive, lymphatic mover, diuretic and diaphoretics to help excrete toxins, antioxidant. There are too many to list individually so please email me if you want to know more about the herbs.

**Collagenous tissue support:** Vitamin C is a catalyst for bones, tissues, cartilage in order to heal properly. A few recommendations: Amalaki, Ala, DHEA, Soloman's seal, Hemp seed for horses.

When using antibiotics, I strongly suggest that probiotics are given 2 hours after each dose in order to keep the immune system at its best. Antibiotics are not selective in which bacteria they kill, they kill bad and good bacteria. The body needs vitality (good bacteria) in order to stay healthy and fight pathogens as 80% of the immune system is in the gut. So for every antibiotic given, I suggest a species appropriate pre/probiotic to follow 2 hours after. 🐾

**\*a heterotrimeric protein expressed on the surface of certain immune cells, such as lymphocytes, that binds and responds to a cytokine called IL-2.**

**\*the blood brain barrier is a bio-protective structure that protects the central nervous system, brain and spinal cord, from being compromised**

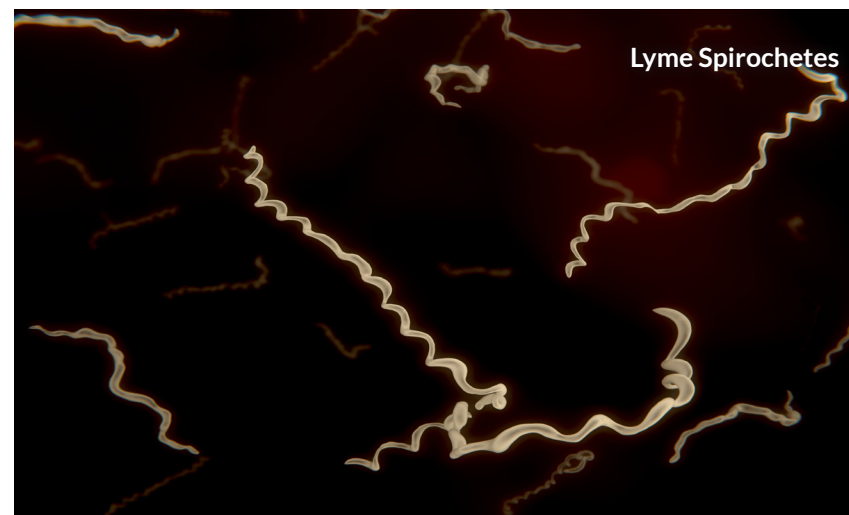


Deer Tick

Research from studies done by the University of California at Berkeley And Spirochaeta and Rickettsia Laboratory, Department of Medicine and Epidemiology  
School of Veterinary Medicine University of California, Davis, Ca  
Lynda Adame, greyhound admin.  
Healing Lyme Disease Naturally, Wolf D. Storl  
Lyme Disease The Ecology of a Complex System, Richard S. Ostfeld  
Healing Lyme, Stephen Harrod Buhner  
Invasive Plant Medicine, Timothy Lee Scott  
David Winston, RH, (AHG), Herbalist & Alchemist (Education)

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*Blends™ and Veterinary Botanicals™ product lines. Ms. Belcher has spent years advancing her herbal studies mentoring with several highly-respected experts in the field of veterinary herbalism. Her areas of expertise include immune balance, the prevention and treatment of Lyme disease in dogs and horses, and custom medicinals in veterinary herbalism. In her practice, Joyce Belcher formulates herbal medicine and supplements for holistic and integrative veterinarians and educates animal owners to be proactive in caring for the health of their animals. She helps owners make informed decisions by speaking to groups through equine and canine symposia and working dog foundations and is a columnist for Dog's Naturally Magazine. She also teaches western herbs for animals to herbal apprentices at herbal schools in New England. You can call 207-451-7093 or go online: [www.petwellnessblends.com](http://www.petwellnessblends.com)*



Lyme Spirochetes

Herbs



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