



## Fact sheet

### Canine Vector-Borne Diseases (CVBD)

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## Lyme Borreliosis (Lyme Disease)

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Lyme borreliosis is a bacterial disease caused by the spirochete *Borrelia burgdorferi* and vectored by ticks of the *Ixodes ricinus* complex. In endemic areas, prevalence of infection in dogs may range as high as 85%.

### Pathogen

- Bacteria *Borrelia sp.*
- USA: *B. burgdorferi sensu stricto*
- Europe: *B. burgdorferi sensu stricto*, *B. afzelii*, *B. garinii*

### Vector

- Europe: tick species of the *Ixodes ricinus* complex (Castor Bean tick)
- USA: *Ixodes scapularis* (Deer tick)

### Distribution

- In the US, Lyme borreliosis is mostly localized to states in the northeastern, mid-Atlantic, and upper north-central regions, and to several countries in northwestern California
- In Europe, Lyme borreliosis is found in Germany, Switzerland, Czech Republic, Slovakia, Austria and Scandinavia and many regions in eastern Europe including Russia
- Occurrence also confirmed in Asia (China, Japan) and probably Australia

### Clinical Signs and Diagnosis

- Although a high proportion of dogs are seropositive in endemic areas (up to 85%), relatively few reported with clinical signs (3-5%)



- Common acute clinical signs are fever, shifting leg lameness, lethargy, lymphadenopathy, and general malaise
- Additionally, several distinct clinical syndromes may be recognized including polyarthritis and protein-losing nephritis
- Diagnosis is based primarily on clinical findings

### **Treatment**

- Dogs with clinical signs and positive for *B. burgdorferi* antibodies are treated with doxycycline 10 mg/kg twice daily or amoxicillin 20 mg/kg, 30 days each

### **Prevention**

- There is a vaccine available in the US for *B. burgdorferi*
- Aggressive tick control, e.g. use of parasiticide with repellent activity, such as (K9)Advantix<sup>®</sup> spot-on (combination of imidacloprid and permethrin)

### **Special Characteristics**

- The most commonly reported human tick-borne infection in Europe and North America; typical human clinical sign is the almost crippling, non-antibiotic responsive chronic arthritis

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