

# Tick-Borne Diseases are Spreading

Tick-borne diseases are quickly spreading across the US. Many of these diseases share similar symptoms and are difficult to detect without testing. IGeneX offers comprehensive tests for these diseases, ensuring that physicians provide the correct diagnosis to patients, and patients get the treatment that will be most effective. The maps below highlight the counties where IGeneX has detected tick-borne diseases in 2021.



#### Lyme Disease

Lyme disease is one of the fastest growing infectious diseases in the United States, infecting nearly 500,000 people annually in the US. It is caused by *Borrelia burgdorferi*, a type of bacteria carried by deer ticks. The symptoms of Lyme disease include fever, headache, fatigue, chills, joint and muscle pain, as well as a characteristic red bulls-eye rash.

Lyme disease has been detected in all 50 states.

## Tick-Borne Relapsing Fever (TBRF)

Looks like Lyme, behaves like Lyme, but it's not Lyme. Is it TBRF? Some of the *Borrelia* that cause TBRF are transmitted by the same ticks that transmit *B. burgdorferi*, the causative agent of Lyme disease. Moreover, both TBRF and Lyme sufferers display many similar symptoms, often leading to misdiagnosis. Therefore, it is important to test for both TBRF and Lyme.

TBRF has been detected in 49 out of 50 states.

#### Babesia

Unlike other tick-borne diseases, Babesia is caused by parasites that infect red blood cells. This makes it similar to malaria. The severity of infection is dependent on the species of Babesia and the immune status of the patient. Most patients will experience flu-like symptoms, high fevers and chills, fatigue, malaise, muscle pain, headaches, myalgia, nausea, and shortness of breath.

Babesia has been detected in all 50 states.



# Bartonella

Bartonella is primarily associated with fleas and lice. Several species of Bartonella cause serious diseases in humans, such as Cat scratch disease (CSD) and trench fever. The symptoms of Bartonella can vary from mild to severe, and usually begin 5 to 14 days after infection. Common symptoms include fever, headaches, fatigue, poor appetite, brain fog, muscle pain, and swollen glands around the head, neck and arms.

Bartonella has been detected in 49 out of 50 states.

### **Rickettsia**

Rickettsia is classified by two main biogroups: the spotted fever group and the typhus group. The symptoms include fever, headache, rash, nausea, myalgia, respiratory concerns, chills, and loss of appetite. Rickettsia is very difficult to diagnose based on symptoms alone, as the symptoms are non-specific and common to several other illnesses. Therefore, without laboratory testing, doctors are rarely able to correctly identify Rickettsia.

Rickettsia has been detected in 40 out of 50 states.

#### **Ehrlichia**

Ehrlichia bacteria are spread primarily by the lone star tick and the blacklegged tick. Symptoms of Ehrlichia usually appear within a week or two of a tick bite. These include fever, chills, headache, muscle aches, and sometimes upset stomach. If treated quickly with appropriate antibiotics, Ehrlichia generally improves within a few days.

Ehrlichia has been detected in 44 out of 50 states.

#### Anaplasma

Anaplasma can affect people of all ages. It is spread by deer ticks (*lxodes scapularis*) and western blacklegged ticks (*lxodes pacificus*). People with Anaplasma will often have fever, head-ache, chills, and muscle aches. In general, Anaplasma leads to milder disease than Ehrlichia, even though the two are very similar.

Anaplasma has been detected in 46 out of 50 states.

Contact IGeneX today to see how you can begin offering comprehensive tick-borne testing to your patients.

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