

Do you have patients that distribute or display ongoing autoimmune reactions, inflammatory response or persistent infections? Is your patient complaining of severe and unexplained fatigue, joint pain, flu-like symptoms with a negative test result, cognitive issues or decline, depression, or body stiffness that may be inconsistent? Have you observed abnormalities in their lab work? For example, their blood count or hemoglobin high or low, high granulocytes, atypical lymphocytes, elevated C-reactive protein, or their hormones are out of range?

Borreliosis and Vector Borne disease could be the underlying cause of these unexplained and inconsistent symptoms. Once thought to mostly be a Northeastern medical problem, Lyme disease has now become an issue in every state and every continent except Antarctica. Over the years, human travel as well as fauna movement and migrations have aided in the spread of this vector borne illnesses.

Borreliosis and Vector Borne disease is a complex multisystemic disease caused by several members of the *Borrelia burgdorferi sensu lato* complex. The spirochete bacterium and other pathogens can persist by evading the immune system and resisting antibiotic treatment. Because of its complexity, those infections can be often mistaken for illnesses such as Lupus, MS, Chronic Fatigue Syndrome, IBS, RA, Fibromyalgia, and or seizure disorders. If left unchecked, the infection can spread to multiple bodily systems, causing significant disease. In its disseminated stage, the pathogens will begin to affect nerve and joint structures, thus causing complications.

According to the CDC, common symptoms a patient may endure are:

- Severe headache and neck stiffness
- Facial palsy
- Arthritis
- Intermittent pain in tendons, muscles, joints and bones
- Heart palpitations or irregular heart beat
- Episodes of dizziness and/or shortness of breath
- Inflammation of the brain and spinal cord
- Nerve pain
- Shooting pains, numbness, or tingling in extremities
- Severe fatigue
- Cognitive dysfunction
- Gastrointestinal issues
- Psychiatric symptoms, including depression, anxiety, and severe mood changes

Often, these diseases should be a clinical diagnosis based on a person exposures, their symptoms, and their physical findings. Making a diagnosis can be difficult, due to symptoms and findings varying from patient to patient. According to [Ticks and tick-borne diseases 2019 v.10 no.3 Find all articles in: Ticks and tick-borne diseases 2019 v.10 no.3 pp. 694-696.](#) (authored by [Lise E. Nigrovic](#), [Desiree N. Neville](#), [Fran Balamuth](#), [Jonathan E. Bennett](#), [Michael N. Levas](#), [Aris C. Garro](#)) only 20% of US patients recall a tick bite. Many patients also do not develop an EM rash. To make diagnosis even more difficult, some lesions developed from infection may have a blistering, uniformly red, disseminated, or bluish red appearance, rather than the classic “bullseye” rash.

Standard testing for borreliosis typically involves the ELISA and Western Blot. Unfortunately, these tests are often inaccurate. Depending on which study is being read, current testing is only 50% to 80% accurate. The reason for inaccuracy is that these two tests measure antibodies made by the immune system in response to an infection.

There are several reasons why a patient who is infected may not produce measurable antibodies. One reason is timing. The immune system may not have had a chance to produce antibodies in response to the presence of the bacteria. It can take up to two or more weeks for the body to create a detectable immune response after initial exposure. A second reason is antibiotics. If a patient is on antibiotics while being tested, their immune system may not be able to produce antibodies as well, as opposed to being tested while not taking medication.

Borreliosis and other vector-borne diseases are extremely complex multisystemic illness.

If you would like to learn more there are two platforms dedicated to helping practitioners help their patients.

[ILADS](#), (International Lyme and Associated Diseases Society) would love to help. They are the leading medical society devoted to the treatment of Lyme and associated diseases. ILADS is a nonprofit, international, multidisciplinary medical society dedicated to the appropriate diagnosis and treatment of Lyme and associated diseases. ILADS promotes understanding of Lyme and associated diseases through research, education and policy. We strongly support physicians, scientists, researchers and other healthcare professionals dedicated to advancing the standard of care for Lyme and associated diseases.

[The Lyme Academy](#) helps practitioners quickly and easily learn about screening, early stage treatments, testing, and comprehensive diagnosis. Their platform offers doctor to doctor education via a virtual platform that makes it easy to learn more and get patients better, faster.

Contrary to conventional and outdated thought, ticks carrying borreliosis pathogens now exist in every state and varying species exist around the globe. If you desire to care for those long-suffering patients with a scientific and strategic approach, our organization offers education and training to help.