

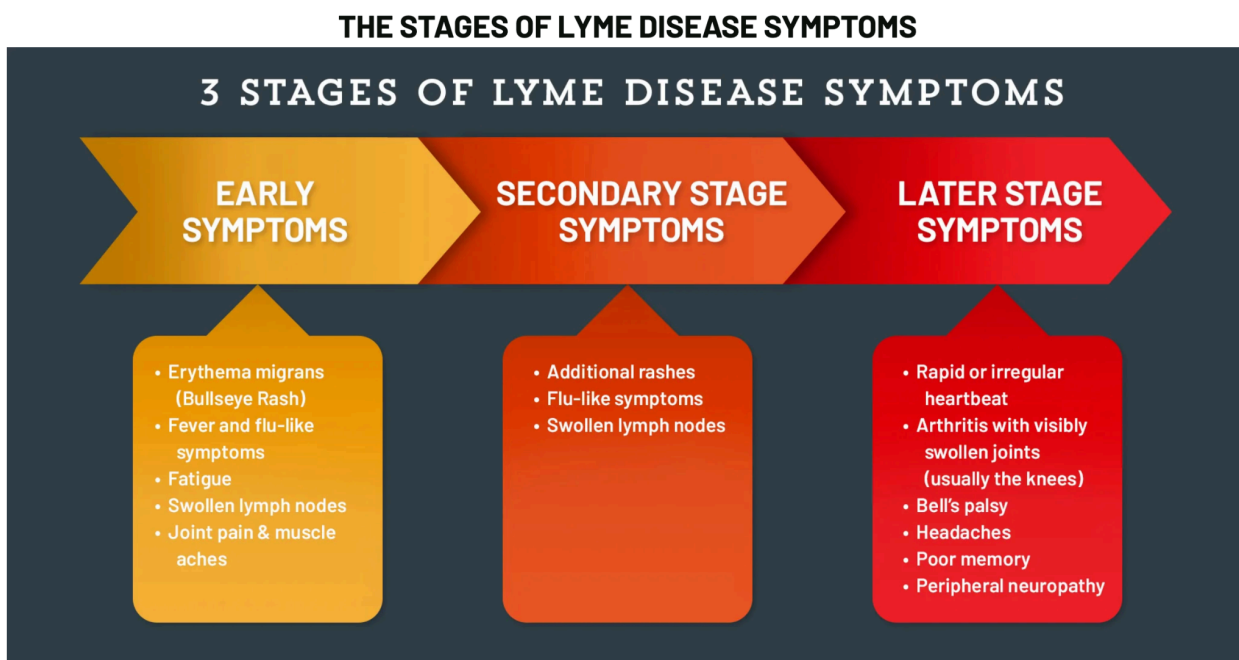
Lyme Disease Testing

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Lyme Disease

The *Borrelia burgdorferi* spirochete (bacterium) spread by deer and black-legged ticks causes 476,000 cases of Lyme disease annually (Lundquist, 2024). Something holistic practitioners are destined to see in their practice. The chart below outlines three stages of Lyme disease symptoms (Mochulsky, 2021).



Currently, the test for Lyme disease is a blood test that measures the presence of antibodies to the *Borrelia burgdorferi* bacterium. A doctor usually orders testing when the patient has Lyme disease symptoms and likely exposure to deer ticks that carry the bacterium. A positive result only indicates the person has been exposed to the *Borrelia* bacterium, and

false positives can occur because of past infections, Lyme vaccine exposure, and crossreactivity with other bacterium (Lyme disease test, 2021).

According to testing.com (2021), two types of antibodies are tested for Lyme disease: IgM and IgG. IgM correlates with an active infection as it peaks within a few weeks of exposure to the bacterium and decreases sharply around 4-6 months after. IgG antibodies respond slower and peak 4-6 months later. For this reason, if the enzyme immunoassay (EIA) is positive or equivocal, the FDA recommends two-tiered testing with the Western blot (Pagana, 2018). The only other test approved by the FDA for Lyme disease is for those with neurologic symptoms. In those cases, the cerebral spinal fluid is tested using a PCR test (Pagana, 2018).

Pagana (2018) states blood lab values for Lyme testing are as follows.

Antibody EIA (Lyme Index Value)

Negative is <0.90

Equivocal is $0.91-1.09$

Positive is >1.10

Western Blot

> 5 different IgG antibodies reactive = positive

> 2 different IgM antibodies reactive = positive

The blood test alone is not enough to diagnose a patient with Lyme. According to the Centers for Disease Control, a diagnosis can only be made if (1) the *Borrelia burgdorferi* has been isolated from tissue, (2) IgM and IgG are elevated in the blood or cerebral spinal fluid and (3) blood samples have positive antibody titers even if repeated testing is necessary (Pagana, 2018). Many times, patients test negative in the early stages but then develop chronic Lyme later on. The problem arises because early testing doesn't test for the bacterium but for the

body's response to it. This response, the development of antibodies, takes time to occur (Lundquist, 2024). It doesn't help that the bacterium can manipulate the immune system, preventing the full clearing of the disease (Tracy and Baumgarth, 2017). This has led to many doctors not relying on the test but on patient complaints instead. Controversy abounds when it comes to Lyme disease, whether it be testing difficulties, treatment variations, or even an agreement on symptoms, as Lyme disease can imitate other diseases. Some doctors think the location the borrelia bacterium settles in the body determines the symptoms (McKeon, 2024). This could account for the wide array of symptoms reported in chronic disease.

Current research in Lyme disease is focused on chronic infections. While a controversial subject, according to the CDC, many practitioners see their patient's health return with long-term treatment despite blood test results. Ingels (2021) and Dr. Radovvsky report having the most success with herbal remedies over antibiotics and also over herbs/antibiotic combinations (Lundquist, 2024). Entire books have been written on the subject, and most practitioners know of someone with a debilitating disease that followed a Lyme infection.

Chronic Lyme can take on many forms. In fact, McKeon (2024) found patients with Lyme disease often have problems with memory, focus, and brain fog mimicking dementia. A study in Canada found that "If Lyme disease progresses unimpeded or fails to resolve with intervention, it can continue to give rise to a range of multisystem symptoms leading to diagnostic ambiguity and therapeutic uncertainty," paving the way for more research in chronic Lyme (Sanderson et al., 2023 p. 2). This seems to be a common consensus with practitioners specializing in Lyme. According to many, the CDC guidelines are inadequate. This has patients turning to alternative healthcare providers.

Research is also available on the connection between chronic Lyme and autoimmune disease. Dinetz and Saleeby (2023) saw notable results when treating autoimmune Crohn's patients with "antimicrobial therapy and immune modulation" for Lyme disease and saw patients go into autoimmune remission. Ingels (202, p. 39) agrees with the autoimmune connection: "Many of us in the Lyme community believe that chronic Lyme disease may be as much of an autoimmune disease as it is an infection," and we look at treatment from a whole-body perspective. He goes on to state that up to 55% of Lyme infections are missed with the antibody EIA test, and while the Western blot is more accurate, the CDC does not recommend that test unless the EIA returns positive. Therefore, for long-term Lyme patients, he recommends Chinese herbal medicine with good results.

As holistic practitioners who treat the whole body and not just blood work or symptoms, Lyme disease is a good candidate for acupuncture and Chinese herbs. Awareness of the difficulty in diagnosing Lyme disease will help practitioners develop a plan for those suffering from Lyme-like symptoms, regardless of diagnosis. A thorough understanding of the blood work will also help alternative medicine practitioners to understand where in the disease process the patient lies or when to refer them to a Lyme specialist who can help them determine if chronic Lyme is part of their disease process.

References

- Dinetz, E., & Saleeby, Y. (2023). *Borrelia burgdorferi*, a Root Cause of Inflammatory Bowel Disease: A Case Report of Successful Treatment and Remission. *Alternative Therapies in Health & Medicine*, 29(5), 86–89.
- Ingels, D. (2021). Lyme Disease: Effective Herbal Therapies. *Townsend Letter*, 456, 38–40.
- Klinghardt, D. (2023). Book Excerpt: New Paradigms in Lyme Disease Treatment. *Townsend E-Letter*, 1.
- Lundquist, P. (2024). Lyme Disease: A STEALTHY AND CONTROVERSIAL ILLNESS. *Alternative Medicine Magazine*, 76, 32–37.
- Lyme disease tests*. Testing.com. (2021, November 9).
<https://www.testing.com/lyme-disease-testing/>
- Mochulsky, A. (2021, May 3). *Dangers of lyme disease: Lyme disease stages & symptoms*. Ranger Ready Repellents®.
<https://rangerready.com/blogs/in-the-news/identifying-symptoms-stages-dangers-lyme-disease>
- McKeon, M. (2024). Lyme Disease and Dementia: Memory Loss, Alzheimer’s, and Misdiagnosis. *Townsend E-Letter*, 1–4.
- Pagana, K. (2018). *Manual of Diagnostic and Laboratory tests*. Elsevier.
- Sanderson, V. P., Miller, J. C., Bamm, V. V., Tilak, M., Lloyd, V. K., Singh-Ranger, G., & Wills, M. K. B. (2023). Profiling disease burden and *Borrelia* seroprevalence in Canadians with complex and chronic illness. *PLoS One*, 18(11)<https://doi.org/10.1371/journal.pone.0291382>
- Tracy, K. E., & Baumgarth, N. (2017). *Borrelia burgdorferi* Manipulates Innate and Adaptive Immunity to Establish Persistence in Rodent Reservoir Hosts. *Frontiers in immunology*, 8, 116. <https://doi.org/10.3389/fimmu.2017.00116>