



LYME DISEASE

What is Lyme disease?

Lyme disease is caused by spirochete shaped bacteria within the *Borrelia burgdorferi* complex, which normally live in deer and wild mice, and are transmitted to humans by the bite of infected tick of the *Ixodes* genus. Most cases of human illness occur in late spring and summer when the tiny tick nymphs are most active and when human outdoor activity is greatest.

What testing is available for Lyme disease at ChildLab?

ChildLab offers two different screening methods and one confirmatory method for Lyme disease testing. The test is run 7 days a week and results are reported within 1-4 days of sample receipt.

1. Lyme Serology.

This method is an EIA (enzyme immunosorbent assay) screen for antibodies to the *Borrelia burgdorferi* complex. The assay detects both IgG and IgM antibodies to *Borrelia burgdorferi* complex in human serum, and is intended for use as an aid in diagnosis of Lyme disease.

Testing is not intended or indicated as a screening procedure for the general population but should be done only when exposure history or symptoms suggest Lyme disease.

♥ Negative Results do not rule out a diagnosis of Lyme disease.

Patients in early stages of infection may not produce detectable levels of antibody. Antibiotic therapy in early stages may prevent antibody production from reaching diagnostic levels. Patients with clinical history and /or symptoms suggestive of Lyme disease but negative results should be retested in 4-6 weeks. A single positive result only indicates prior exposure to the organism.

♥ Positive Results

Positive results must be interpreted with caution. Clinical symptoms, epidemiological information, and other laboratory test results must all be considered. Following CDC recommendations, confirmatory Western Blot testing is performed to confirm all positive qualitative results.

2. Lyme Disease by PCR (Polymerase chain reaction)

PCR testing detects the genetic material (DNA) of the Lyme disease bacteria. PCR testing may be useful for identifying a current (active) infection if you have arthritis that does not improve with antibiotic treatment. The numbers of *Borrelia* likely to be present in patients suspected of having Lyme disease are too small to generate sufficient amounts of bacterial DNA to be detected by this procedure. PCR testing is not done as frequently as antibody (serology) testing.

A negative result does not rule out the presence of PCR inhibitors in the patient specimen. *Borrelia burgdorferi* DNA concentrations are below the level of detection of the assay.

3. Lyme Disease Confirmation by Western Blot

This method is used to confirm positive total antibody screens. The Western Blot method identifies the proteins of the spirochete shaped bacteria to which the antibody response is directed. **This test should only be used to confirm positives, and should not be ordered as a stand-alone diagnostic test.**

For More Information: For questions regarding test availability and sample requirements, please contact ChildLab Client Services at (614)722-5477 or (800)934-6575.