

The Pennsylvania Department of Health, Bureau of Laboratories (BOL) is offering Lyme disease testing for Pennsylvania residents. This service is provided free of charge to individuals residing in the state who are uninsured or underinsured.

Lyme disease is an infection spread by the bite of ticks that has been estimated more than 30,000 illnesses each year in the United States. CDC estimates due to underreporting it could be closer to 300,000 cases. Lyme disease is caused by the bacterium *Borrelia burgdorferi* and is transmitted to humans through the bite of infected blacklegged ticks (1). Typical symptoms include fever, headache, fatigue, and a characteristic skin rash called erythema migrans. If left untreated, infection can spread to joints, the heart, and the nervous system.

Laboratory blood tests are helpful if used correctly and performed with validated methods. Laboratory tests are not recommended for patients who do not have symptoms typical of Lyme disease (2). CDC currently recommends a two-step process (Enzyme Immunoassay (EIA) for screening and Western Blot for confirmation of positive samples) when testing blood for evidence of antibodies against the Lyme disease bacteria (2). Both steps can be done using the same blood sample.

Test Method offered at the Bureau of Laboratories:

1. **EIA for qualitative detection of IgG and IgM class antibodies to VlsE1 and pepC10 antigens from *Borrelia burgdorferi* in human serum.**
2. **Western Blot for the confirmation of IgG and IgM antibodies – positive ELISA will automatically reflex**

Acceptable samples for Lyme testing:

Serum for IgM and IgG serological testing.

Specimen Collection Supplies:

Collect 3-5 ml of blood in a red/gold-top or serum-separator tube (SST) for IgG and IgM tests. Centrifuge the tubes and submit the serum. **DO NOT** collect sera if there are any added anticoagulants or preservatives.

BOL Specimen Submission Form: Mandatory information to be included:

1. Patient Name (Last, First, Middle), address, city, zip code, and county
2. Date of Birth, Sex, Date of Onset, Specimen source and Collection date
3. Submitter name, complete address, and contact information, including both name and phone and fax number.

Day (s) Test Performed: Monday through Friday.

Specimen Packaging and Storage Instructions:

1. Label the containers with patient's name, DOB, specimen source and the collection date.
2. Patient's information and the specimen submission form must appear on the specimen or testing will **NOT** be performed.
3. Place the specimen tube in one of the compartments of the biohazard bag.
4. Seal the specimen bag and store in the refrigerator specimen at 2-8° C until shipping.

Shipping Instructions:

1. Ship the specimen as soon as possible after collection. If you need to storage for more than 3 days, storage frozen until shipping and send it with cold packs.
2. Keep the specimen cold until it reaches the laboratory.
3. Package the specimen appropriately and ship overnight to the address below.
4. Do not ship specimens out on Fridays, weekends, day before a holiday or holidays, unless approved by Maria Strohecker, 484-870-6289 or mstrohecke@pa.gov.

References:

1. <https://www.cdc.gov/lyme/index.html>
2. <https://www.cdc.gov/lyme/diagnostesting/labtest/twostep/index.html>