

Borrelia Antibody (CSF)



Does this test have other names?

Lyme disease test (CSF)

What is this test?

This test looks for Borrelia antibodies in your cerebrospinal fluid (CSF). CSF is the liquid that surrounds the brain and spinal cord. Borrelia burgdorferi bacteria cause Lyme disease.

These types of bacteria, called spirochetes, are spread to humans through the bite of an infected tick.

Lyme disease is the most common tick-borne illness in the U.S. If not treated, Lyme disease can cause an infection of the tissues covering the brain and spinal cord (meningitis). It can also cause:

- Liver and heart problems
- Inability to control facial muscles (facial palsy)
- Problems that may show up months or years later, such as ongoing pain and tiredness, arthritis, and problems with memory and concentration

This test measures the level of antibodies to the Borrelia bacteria in your CSF to see if Lyme disease has spread to your central nervous system.

Why do I need this test?

You may need this test to find out if Lyme disease has affected your central nervous system. Early signs that Lyme disease has affected the nervous system include:

- Meningitis, an infection of the brain's protective membranes
- Muscle and joint aches
- Facial palsy
- Nerve inflammation that causes pain
- Weakness
- Numbness or trouble controlling muscles in some part of your body

It's important to treat Lyme disease early. This is because it can cause:

- Arthritis
- Heart and liver problems
- Ongoing pain and fatigue
- Chronic problems with memory and concentration

Antibiotics can be used to treat all stages of the disease.

You may also have this test to check for other tick-borne illnesses.

What other tests might I have along with this test?

You may also have these tests:

- Blood test to check for *Borrelia* antibodies
- Other CSF tests, including cell count and protein and glucose levels
- CSF gram stain and bacterial cultures to look for other disease-causing germs
- Nerve conduction studies to look for damage to the peripheral nervous system
- CXCL13 biomarker test of your CSF
- Electrophysiology testing of peripheral nerve function
- Imaging tests

What do my test results mean?

Test results may vary depending on your age, gender, health history, and other things. Your test results may be different depending on the lab used. They may not mean you have a problem. Ask your healthcare provider what your test results mean for you.

Some *Borrelia* antibodies in the blood are also likely to be found in your CSF. This means that finding them in your CSF may not mean you have central nervous system Lyme disease. A higher level of antibodies to Lyme disease in your CSF than in your blood means that the antibodies may be multiplying there. This may mean that the disease has spread to your central nervous system.

You will likely be diagnosed with central nervous system Lyme disease if your test results show most or all of these conditions:

- You have higher counts of lymphocytes, monocytes, or both in your CSF. These are both types of white blood cells that may mean you have an acute infection.
- Your CSF protein concentration is 200 to 300 milligrams per deciliter (mg/dL).
- You have a higher level of *Borrelia* antibodies in your CSF than in your blood after adjusting your blood and CSF antibody tests so that both have an equal concentration of IgG antibodies.

A negative result means that no *Borrelia* antibodies were found. But a negative result of this test alone doesn't rule out the possibility of nervous system Lyme disease. A diagnosis is usually made after looking at the results of several types of tests.

How is this test done?

This test needs a sample of CSF. A sample is taken through a lumbar puncture in your lower back. During this procedure, you either sit up and lean forward, or lie down on your side. A healthcare provider injects a numbing medicine in the skin of your back. Then the healthcare provider inserts a needle into your spine and draws out a sample of fluid.

Does this test pose any risks?

Risks include:

- Headache
- Infection
- Bleeding

- Brain herniation
- Nerve pain or numbness
- Back pain

Talk with your healthcare provider about the risks before the test. Be sure to tell your provider if you've had a seizure, increased pressure in your eyes, or other health problems.

What might affect my test results?

Other factors aren't likely to affect your results.

How do I get ready for this test?

You don't need to prepare for this test. But be sure your healthcare provider knows about all the medicines, herbs, vitamins, and supplements you are taking. This includes medicines that don't need a prescription and any illegal drugs you may use.

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