

The diagnosis of **Lyme disease** is based on clinical presentation; the laboratory can support or confirm the diagnosis, but it cannot rule it out. Similarly, testing for Bartonella and Babesia is also plagued by a high degree of false negativity. Dr. Robert Bransfield, a psychiatrist who specializes in infectious causes of neuropsychiatric illness, has developed a structured clinical interview to assess patients. Go to [mentalhealthandillness.com](http://mentalhealthandillness.com).

## TREATMENT

Most individuals with **Lyme disease** respond to antibiotics, but the treatment course is highly patient-specific. ILADS has published evidence-based guidelines for the diagnosis and treatment of Lyme and associated tick-borne diseases. (9) For more information, visit the ILADS website at [ILADS.org](http://ILADS.org) as well as [lymeinfo.net/neuropsych.html](http://lymeinfo.net/neuropsych.html) for additional web links.

When an individual has been diagnosed with Lyme disease or any other tick-borne infection, it is helpful if a Lyme literate neuropsychologist performs a neuropsychological evaluation to attain a functional baseline, which will aid in sequential evaluation of the patient. It will also inform the treating physician regarding the patient's neuropsychological strengths and weaknesses, and assist the physician in making decisions regarding the type and duration of treatment.

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## **Psychiatric Lyme: What Every Mental Health Specialist Should Know About Lyme and Tick Borne Illness**



## **Effective Medicine for Lyme and Tick Borne Illness**



**ILADS**  
International Lyme and  
Associated Diseases Society

## PSYCHIATRIC LYME DISEASE: DON'T MISS THIS CRUCIAL DIAGNOSIS

In a published study, one-third of psychiatric patients showed signs of past infection with the Lyme spirochete, *Borrelia burgdorferi*. (1) Tick borne illnesses frequently cause serious psychiatric symptoms that lead to referral to mental health practitioners, who are often the first to detect an underlying organic illness. Even severe neuropsychiatric symptoms in this population can often be reversed or ameliorated when antibiotics are used along with the indicated psychiatric treatments.

Disorders of the nervous system have been found in 15-40% of late stage Lyme patients.(2) When Lyme disease affects the brain, it is referred to as Lyme Neuroborreliosis or Lyme encephalopathy.

### WHAT ARE THE NEURO-PSYCH SYMPTOMS?

Patients with late-stage Lyme and tick borne infections may present with a variety of neurological and psychiatric problems, ranging from mild to severe.(3) Lyme encephalopathy results in mood and cognitive disturbances as well as fatigue and a myriad of other symptoms such as headaches and sleep disorders.

#### **Cognitive Difficulties**

- Simple and complex attention
- Slow processing—visual and auditory
- Visual-spatial difficulties—e.g. trouble finding things, getting lost
- Auditory processing disorders
- Visual processing disorders
- Sensory integration disorders
- Short-term and working memory difficulties
- Word-finding, word generation and communication difficulties
- Decline in executive functions—planning and organization
- Confusion, decline in overall intellectual performance

#### **Emotional/Behavioral Difficulties**

- Anxiety, often with panic attacks
- Depression
- Irritability/rage attacks/impulse dyscontrol/violent behavior/oppositional defiance disorder
- Sleep disorders
- Rapid mood swings that may mimic bipolarity (mania/depression)
- Obsessive Compulsive disorder (OCD)
- Hyperactivity
- Autism Spectrum-like disorders
- Antisocial disorders
- Eating disorders

## LYME: SOME GENERAL CONSIDERATIONS

**Lyme disease** is the fastest growing infectious diseases in the U.S. Lyme has been reported in all 50 states, though it is most prevalent in the Northeast, Northwest and Great Lakes area. The Centers for Disease Control and Prevention reported that there were 300,000 new cases in 2012, and estimates based on clinical diagnosis suggest there are over 1 million new cases yearly. (4)

The infection is transmitted by the bite of a black-legged (deer) tick infected with the *Borrelia burgdorferi* (Bb) spirochete, and is often complicated by co-infections: other bacteria, protozoa, and viruses carried by the same ticks. Lyme is difficult to diagnose because fewer than half of all patients recall a tick bite or develop the signature erythema migrans (“bull’s-eye”) rash, and the routine Lyme ELISA screening test has up to 60% false negativity. (5) Similarly, testing for co-infections is also plagued by a high rate of false negativity.

### WHEN SHOULD A PSYCHIATRIST SUSPECT LYME & TICK BORNE DISEASE?

The most common symptoms of chronic tick borne infection are musculoskeletal and neurological.

Specifically:

- Fatigue, which can be mild or severe
- Muscle pains feel like the flu
- Muscle cramps and twitching are common
- Joint pains are often migratory, typically involving larger joints, with occasional swelling
- Sleep disorders can be severe
- Headaches can be migrainous, global or local
- Neuropathies include the cranial nerves such as Bell’s Palsy, and peripheral nerves with numbness and paresthesias as well as sharp, shooting or stabbing pains
- Mood and cognitive disorders are often the presenting complaint

There are more severe neurological symptoms or disorders associated with late-stage tick-borne infection:

- Progressive dementias
- Seizure disorders
- Strokes
- Motor neuron disease, similar to ALS
- Gullain-Barre-like syndrome
- Multiple sclerosis-like syndrome
- Other extrapyramidal disorders
- Visual disturbances or loss

Consider Lyme disease in children with behavioral changes, fatigue, school phobias, academic problems, learning disabilities, headaches, sore throats, GI complaints and/or migrating pains. In teens, Lyme disease may be complicated by drug abuse.

Lyme co-infections, other microbes that are also transmitted by black legged ticks, also often cause neuropsychiatric issues. In particular, Bartonella and Babesia infections often result in severe neuropathy, mood and cognitive complaints.

Patients with chronic tick-borne infections are often misdiagnosed with Chronic Fatigue Syndrome, Fibromyalgia, Multiple Sclerosis, and other autoimmune illnesses.

### DIAGNOSIS:

Dr. Brian Fallon, director of the Lyme Disease Research Program at Columbia University and principal investigator of the NIH-funded study of brain imaging and persistent Lyme disease, cites five questions that suggest warning signs of Lyme encephalopathy (6):

- Are there markers of non-psychiatric disease such as erythema migrans rash, arthralgias or arthritis, myalgias, headaches, sound or light sensitivity, paresthesias, tremors or twitching, cardiac palpitations, word-finding problems, short-term memory loss, cranial neuropathies, radicular or shooting pains?
- Is the psychiatric disorder atypical or unusual? For example, does a panic attack last longer than the expected 1/2 hour? Or is it a first ever panic attack at age 50?
- Is there poor or paradoxical response to psychotropic medications, or excessive side effects/sensitivity to these medications?
- Is this new-onset disease without psychological precipitants such as new stressors or secondary gain?
- Is there an absence of a personal history or family history of major psychiatric disturbances?

Negative answers to these questions do not rule out the presence of Lyme disease and co-infections. But a “yes” to most of the questions, especially in a patient with an out-of-doors lifestyle or a pet, demands further clinical assessment.

Because blood tests at the top three general medical laboratories in the nation fail to detect 35% of Lyme antibodies (7), ILADS recommends the use of laboratories that specialize in Lyme and other tick-borne infections: Clongen Laboratories, clongen.com; IgeneX, igenex.com; and Medical Diagnostics Laboratory, mdlab.com. Lyme ELISA testing is useless as a screening tool because of its high incidence of false negativity. Western Blot evaluation is the best first step in laboratory evaluation, but it requires knowledge of which bands are reasonably specific for Lyme. The CDC criteria for positivity apply only to surveillance and reporting, and should not be used to make a diagnosis. (8)