What to Do?

Screen patients for Lyme symptoms, especially those with complicated or atypical presentations. Be suspicious of Lyme if a patient mentions cognitive changes, extreme fatigue, weight changes, headaches, fibromyalgia, a history of "mono," "spider bites," multiple sclerosis, explosive rages or sudden mood swings. To elicit data about cognitive problems ask broad questions such as, "How do you think your brain is functioning?" or "How many things can you handle at one time?"

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.

The Lyme spirochete is slow growing and can be difficult to treat, so be sure the patient is treated with appropriate antibiotics for at least two to four weeks *beyond symptom resolution*.

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 (*Expert Rev Anti-Infect Ther* 2004;2(Suppl):S1-S13). For more information, visit the ILADS website at www.ilads.org.

Some of the common symptoms of late-stage (tertiary) Lyme disease and other tick-borne co-infections:

- Profound fatigue
- Chills, sweats and skin flushes
- Night sweats
- Migrating arthralgias
- Muscle pains/twitching
- Sleep disturbances
- Severe headaches
- Shifting neurologic pains
- Tremors, shakiness
- Numbness, tingling sensations, pain often shifting and unusual in type
- Cranial nerve disturbance (Facial numbness, pain, tingling, paralysis, optic neuritis, trouble swallowing, distortion of smell or taste) See Category below.

The more severe neurological symptoms or disorders associated with late-stage Lyme disease:

- Progressive dementias
- Seizure disorders
- Strokes
- ALS-like syndrome (similar to Lou Gehrig's Disease)
- Guillain-Barre-like syndrome
- Multiple sclerosis-like syndrome
- Parkinson's disease-like syndrome
- Other extrapyramidal disorders
- Visual disturbances or loss

Checklist of common cognitive impairments in Lyme disease (from Marian Rissenberg, Ph.D., clinical neuropsychologist)

Losses in fields of attention/executive functions such as inability to maintain divided or sustained attention, auditory and mental tracking and scanning, and memory retrieval can affect**:**

- Memory functions (lost items, missed appointments, retold stories)
- Language functions (halting speech, disrupted participation in conversation)
- Visual/Spatial Processing (Inability to find things, tendency to get lost, disorganization, difficulty reading, especially for enjoyment)
- Abstract reasoning (Poor problem-solving/ decision-making)
- Slowed processing speed (Familiar tasks take l onger, can't follow conversations well).

Most or all of these impairments, if caused by neuroborreliosis, may improve with proper antibiotics combined with other appropriate symptomatic treatments.

Disclaimer

The foregoing information is for educational purposes only. It is not intended to replace or supersede patient care by a healthcare provider. If an individual suspects the presence of a tick-borne illness, that individual should consult a healthcare provider who is familiar with the diagnosis and treatment of tick-borne diseases.

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What Psychiatrists Should Know about Lyme Disease

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When Should a Psychiatrist Suspect Lyme Disease?

In a published study (Hajek et al, *Am J Psychiatry* 2002;159:297-301), one-third of psychiatric inpatients showed signs of past infection with the Lyme spirochete, *Borrelia burgdorferi*. The International Lyme and Associated Diseases Society (ILADS) has found that even severe neuropsychiatric behavioral symptoms in this population can often be reversed or ameliorated when antibiotics are used along with the indicated psychiatric treatments.

Don't miss this crucial diagnosis.

Patients with late-stage Lyme disease may present with a variety of neurological and psychiatric problems, ranging from mild to severe. These include:

- Cognitive losses including:
  - Memory impairment or loss ("brain fog")
  - Dyslexia and word-finding problems
  - Visual/spatial processing impairment (trouble finding things, getting lost)
  - Slowed processing of information
- Psychosis
- Seizures
- Violent behavior, irritability
- Rage attacks/impulse dyscontrol
- Anxiety
- Depression
- Panic attacks
- Rapid mood swings that may mimic bipolarity (mania/depression)
- Obsessive compulsive disorder (OCD)
- Sleep Disorders
- Attention deficit/hyperactivity disorder (ADD/ADHD)-like syndrome
- Autism-like syndrome

Lyme disease is one of the fastest growing infectious diseases in the nation. The Centers for Disease Control and Prevention (CDC) reported over 23,783 new cases in 2002, and the government agency estimates that the total number may be tenfold higher. The disease is caused by the bite of a deer tick infected with the *Borrelia burgdorferi* (Bb) spirochete and may be complicated by other parasites or co-infections. It is hard to diagnose because fewer than half of all Lyme patients recall a tick bite or develop the signature erythema migrans ("bullseye") rash. As a result, many patients go untreated and develop psychiatric and/or neurological symptoms.

Lyme disease sometimes begins as a flu-like illness accompanied by fever, headache, sore throat and joint pain. After infection, patients may develop cardiac or early neurologic problems including meningitis, encephalitis and cranial neuropathies. Look for eyelid droop, facial weakness, numbness or pain, shoulder droop, sensory distortions or any other focal neurological signs. There may be a history of neck pain and stiffness or muscle twitching.

Some patients may have arthritic symptoms in single or multiple joints. Most patients mention this to a psychiatrist only if directly asked.

At any time after a tick bite, patients may also exhibit cognitive symptoms such as memory and concentration impairments and word-finding difficulties, ADD/ADHD-like symptoms, learning disabilities, OCD, crying spells, rages, depression/bipolar disorder, panic/anxiety disorders and psychoses - all may be caused or exacerbated by Lyme disease.

Disorders of the nervous system have been found in 15 – 40% of late-stage (tertiary) Lyme patients (Caliendo et al, *Psychosomatics* 1995;36:69-74). When Lyme disease affects the brain, it is often referred to as Lyme neuroborreliosis or Lyme encephalopathy. Usually the patient is totally unaware of its presence.

Neuroborreliosis can mimic virtually any type of encephalopathy or psychiatric disorder and is often compared to neurosyphilis. Both are caused by spirochetes, are multi-systemic, and can affect a patient neurologically, producing cognitive dysfunction and organic psychiatric illness. Such symptoms may be dormant, only surfacing years later.

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 imply warning signs of possible Lyme encephalopathy:

- Are there markers of non-psychiatric disease such as erythema migrans rash, arthralgias or arthritis, myalgias, severe headaches, sound or light sensitivity, paresthesias, diffuse fasciculations, cardiac conduction defects, word-finding problems, short-term memory loss, tremors, cranial neuropathies, and/or radicular or shooting pain?
- Is this 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 or excessive side effect sensitivity to medications that are expected to be helpful for particular psychiatric symptoms?
- 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. 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. Dr. Fallon recommends Western blot serologic studies, lumbar puncture, neuropsychological testing, brain MRI and SPECT (single photon emission computerized tomography) scans. For more information, see www.columbia-lyme.org.

Other helpful tests may include PCR for *Borrelia burgdorferi* in blood, serum, cerebrospinal fluid (CSF) and urine, and/or Borrelia antigen testing in urine and CSF.

Because blood tests at the top three general medical laboratories in the nation fail to detect 35% of Lyme antibodies, ILADS recommends use of laboratories that specialize in Lyme and other tick-borne illnesses. Contact www.lymediseaseassociation.org for a listing of recommended labs.

Blood tests should not be used to rule out Lyme disease when there is a strong clinical presentation. Dr. Robert Bransfield, a psychiatrist who specializes in infectious causes of neuropsychiatric illness, has developed a structured clinical interview to assess seronegative patients. See www.mentalhealthandillness.com