

Lyme Disease- how can it be treated?

What is lyme disease?

Lyme disease is a disorder that starts with an infection that is transmitted with the bite of a tick. The organism transmitted by the tick is *Borrelia burgdorferi*. Lyme disease is found throughout the northeastern United States, central and eastern Europe, and eastern Asia and the number of cases of lyme disease is increasing.¹ The disease has been known since the 19th century—it is named after the town of Lyme, Connecticut after a number of people in Lyme and nearby towns developed an unusual rash. *Borrelia* was determined to be the causative agent in 1982. There are two populations that seem at greatest risk—males between the ages of 5 and 19 and females 55-69 years old, though many studies do not show this distribution.²

People can get Lyme disease (LD) if they are bitten by a tick that carries the *Borrelia* organism—just because you have been bit, doesn't mean you will get Lyme disease though—we don't really know what predisposes one person to get Lyme disease while another person only has a short phase of illness—and yet another never seems to have any symptoms at all. The early symptoms of Lyme disease include rash, fever, swollen lymph nodes and sore/achy joints. About 80% of adults will have the typical rash of LD—the “erythema migrans” or target lesion. In Europe, there seems to be a difference in how the rash appears. LD can go to a second phase where symptoms include headache, a stiff neck and neurological symptoms such as painful facial nerves and eye problems. The heart and joints can be affected—sometimes severely—in Phase II of LD as well. The arthritic-like symptoms can be on one side and generally affect the knee most often.^{1,2} These pains can shift back and forth and affect joints other than the knees.³

In general, ticks are most active during the summer and live in low grasses and bushes—waiting for a human or animal to walk by. The ticks latch onto exposed skin or fur and begin to feed on blood. The easiest thing to do is to prevent infection—by not exposing skin for the tick to latch on to!

Why is Lyme Disease so difficult to diagnose?

LD is a clinical diagnosis—meaning that there is no definitive test available and the diagnosis is based on the physician's clinical experience and understanding of the symptoms presented. There are antibody tests (ELISAs) available testing the levels of antibodies to *Borrelia*. There are other tests, such as microscopic tests and Western blot tests that can pick up the organism or its proteins. But, since many (about 15%) of LD patients don't have these antibodies or proteins (possibly because the organism is so effective at “hiding” from the immune system), they don't

get the correct diagnosis. Patients report going from doctor to doctor, with each one giving his or her diagnosis, and never getting any real help.

There are other tests that can be used—these include the polymerase chain reaction (PCR) testing (a method to amplify the *Borrelia* DNA) and the LUAT (Lyme Urinary Antigen Capture Test). Sometimes the problem is that insurance won't pay for those tests or the physician is unaware of them—or, many physicians think that if one test is negative for LD, why keep testing? Part of the difficulty for patients is to find a physician that has experience with LD—or at least has an open mind and is willing to do the extra research it may take to learn about the disease.

What are the treatments used?

Most treatments include the use of antibiotics—many physicians will agree on that. There is however, a controversy as to how long antibiotics should be used, should there be a combination of antibiotics used (because the *Borrelia* organism can go through a number of life-cycles that are antibiotic resistant) and there questions about whether some patients go through a relapse. There are other questions about whether chronic LD even exists⁴. Some people have few if any early symptoms and may come to their physician with the later neurological symptoms. Part of the problem may have to do with how LD is defined—usually by those early symptoms. Some physicians will use antibiotics as a preventive even when LD is not certain.⁵

Integrative and alternative physicians will approach the problem a bit differently. Many MDs will use antibiotics—but will use them for a longer time period and often will use combine them with other antibiotics to make sure all the life-cycle phases of the *Borrelia* are killed off. Naturopathic physicians and integrative physicians will often use a wider variety of approaches. Some of them may include antibiotics, but often will include dietary interventions such as the candida diet or the anti-inflammatory diet. If the patient IS given antibiotics, a course of probiotics is absolutely also recommended.⁶ Anti-fungal therapy to treat candida infections is also often used. Some physicians use a botanical medicine called *Artemesia annua*—sometimes with or without additional antibiotics.⁷ Other botanical medicines may be used and include cat's claw (uña de gato) and spilanthes (*Acmella oleracea*). Echinacea and mushrooms may be used to support the immune system. Anti-inflammatory supplements such as the omega-3 fatty acids (fish oils), CoQ10 and B vitamins are also often used. Since so many patients with LD have cognitive problems—such as difficulty in concentrating, memory loss, difficulties in multitasking and depression, many physicians will also recommend approaches that help the nervous system—these can include talk therapy, botanicals such as ginkgo biloba and supplements such as L-acetyl carnitine. Sleep can also be an issue—here, the recommendations often include botanicals (valeriana, chamomile) and supplements (melatonin, 5HTP).

The most important thing you can do if you suspect Lyme Disease is to find an open-minded physician who will believe your symptoms are real and will work with you to find the best treatments possible. My first reaction is always to believe the patient---there are those few

patients who perhaps like the attention or are hypochondriacs, but for the most part, most patients are not making this stuff up! As I have said to many patients—have you had this same body all your life? Well then, you know it better than I do, and unless proven otherwise, I will take you at your word!

¹ Bhate, C., Schwartz, RA., Lyme disease, *J Am Acad Dermatol* - April, 2011; 64(4); 619-636 .

² Bacon R.M., Kugeler K.J., Mead P.S.: Surveillance for Lyme disease—United States, 1992-2006. *MMWR Surveill Summ* 57. 1-9.2008

³ <http://www.bing.com/health/article/mayo-125320/Lyme-disease?q=lyme+disease>

⁴ <http://connectionnewspapers.com/article.asp?article=350257&paper=63&cat=104>

⁵ <http://www.hopkins-arthritis.org/arthritis-info/lyme-disease/controversies.html>

⁶ <http://www.rhinebeckhealth.com/rhc/lyme.php?osCsid=2db8f7e28317fd9468ce0b181ce470bb>

⁷ http://www.ilads.org/lyme_research/lyme_articles8.html