

# Lyme Disease's Symptoms May Continue After Treatment

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Today's question is from E.K. in Water Mill: Last summer I was bitten by a tick. Afterwards I had a red ringed rash around the bite site and felt sick. My doctor said that it was probably early Lyme disease and that I should take antibiotics, which I did. The rash went away but I still feel tired and achy and my blood tests are negative for Lyme disease. Any thoughts?

Lyme disease, is caused by a spirochete called *Borrelia burgdorferi*, and is the most common tick-borne disease in the United States. The number of reported cases has more than doubled between 1992 and 2006, and almost 29,000 new confirmed cases were reported in 2008. Additional studies have shown that the actual number of cases of Lyme disease may exceed reported cases by a factor of 6 to 12 in endemic areas, such as where we live. There are several other infectious organisms that can be transmitted with the *Borrelia* spirochete and these co-infections can be as bad or worse as Lyme disease itself. The principle means of transmission of the disease is a tiny tick and at this point all of the different types of ticks are known to carry these infections. If you remove a tick from your skin you should save it and have it tested, through your local clinical laboratory, for Lyme disease.

Although common, in certain areas, some aspects of Lyme disease continue to be poorly understood and are a source of intense controversy among patients, physicians and researchers. When correctly diagnosed, the majority of patients, with acute Lyme disease, can be usually treated with a standard course of antibiotics such as Doxycycline. However, 10 percent to 20 percent of patients with acute Lyme disease, after completing the standard course of antibiotic therapy, still have symptoms. Some of these patients have an untreated co-infection, others still have an active *Borrelia* infection and a third group go on to develop chronic symptoms now identified as post-Lyme disease syndrome.

Post-Lyme syndrome seems to be a secondary auto-immune response to a cross reactive antigen to the *Borrelia* organism. These patients usually have abnormalities in their blood tests that range from an increase in inflammatory markers to evidence of anti-neuronal antibodies. These antibodies can attack the central nervous system and can account for a wide range of variable and changing symptoms. Treatment options also vary and may include; the use of anti-inflammatory supplements and/or drugs, antigen desensitization to raise the number and activity of TR1 suppressor cells all the way to the use of immunosuppressive drugs in severe cases. Individual treatment varies depending upon the specific blood test results.

Send in your questions and be well.