

## **Lyme disease: a persistent infection**

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There are multiple studies indicating that Lyme disease can result in a persistent infection, causing chronic symptoms that may require treatment with extended courses of antibiotics. The National Institute of Health (NIH) conducted three Lyme disease trials, which validated the existence and severity of chronic manifestations of Lyme disease.<sup>2-4</sup> The study's patients were ill for years, an average of 9 years in one trial. Three of the four trials confirmed that treatment with antibiotics can fail. These patients reported severe fatigue, impaired cognitive function, pain and poor function despite antibiotic treatment.<sup>5</sup>

**Some doctors have dismissed the possibility that a persistent tick-borne infection might underlie a patient's illness,<sup>6</sup> while other doctors believe that Lyme disease may cause a persistent infection and be an underlying cause of illness.<sup>7</sup>**

[Dr. Shor and colleagues summarized potential mechanisms for a persistent infection.](#)

*“Potential survival mechanisms of Lyme disease persistence include: immune evasion, immune modulation, and the presence of subpopulations of persister cells. Physical seclusion—within cells, collagen-rich tissues, and immunologically protected sites (CNS, joints, and eyes), is one method of immune evasion. Biofilm generation is another recognized form of physical seclusion. Published reports document that *Borrelia burgdorferi* can produce biofilm in vitro and examination of infected human tissues demonstrated *B. afzelii* and *B. burgdorferi* embedded in biofilm.” [7]*

Editor's perspective: Patients are finding it increasingly difficult to locate a doctor who is willing to at least consider the presence of a persistent infection.

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