

Doctors face challenges in diagnosing Borrelia miyamotoi

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Borrelia miyamotoi, the bacteria which causes relapsing fever, is one of the latest threats. The disease was first reported in the United States in 2013 but has become increasingly more common. *B. miyamotoi* is carried by black-legged ticks, the same ticks that can transmit Lyme disease. One study found that 2% of nymphal ticks collected in 11 states endemic for Lyme disease were infected with *B. miyamotoi*.

A recent review by Shapiro and Wormser in the *Journal of the American Medical Association*, points out the concerns associated with this particular tick-borne disease and how its unique presentation can make it [challenging to diagnose](#).^[2]

- “This bacterium can be transmitted within the first 24 hours of tick attachment.”
- “The probability of transmission increases with every day an infected tick is allowed to remain attached.”
- While some patients with Lyme disease may exhibit a rash, “patients infected with *B. miyamotoi* in the United States typically do not have a rash.” But they may present with “a fever in conjunction with headache (96%), myalgia (84%), arthralgia (76%), and malaise/fatigue (82%).”
- There [are no diagnostic tests for *B. miyamotoi* infection](#) that have been approved by the US Food and Drug Administration.
- The fever may be relapsing. [Editor’s note: Fevers often do not relapse.]
- “Laboratory abnormalities include leukopenia (51%) and thrombocytopenia (60%), which are rarely seen in Lyme disease.” [Editor’s note: These are seen in Ehrlichia and Anaplasmosis.]
- “Severely immunocompromised patients may develop chronic meningitis.”

Fortunately, doxycycline and amoxicillin have been shown to effectively treat *B. miyamotoi* infection in patients, including those who are immunocompromised. [Editor’s note: Long-term outcome studies are needed.)

Related Articles:

[The best antibiotics to treat Borrelia miyamotoi?](#)

["Urban" ticks carry *B. burgdorferi* sl and *B. miyamotoi*](#)

[Don't count on a relapsing fever to diagnose *B. miyamotoi*](#)

References:

1. CDC Vital Signs, Weekly / May 4, 2018 / 67(17);496–501.
<https://www.cdc.gov/mmwr/volumes/67/wr/mm6717e1.htm>
2. Shapiro ED, Wormser GP. Lyme Disease in 2018: What Is New (and What Is Not). *Jama*. 2018;320(7):635-636.

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