

# Lyme disease: What is it and are you at risk?



Lyme disease is a bacterial infection caused by *Borrelia burgdorferi*, transmitted by the bite of a tick.<sup>1</sup>

## Where there is a risk of Lyme disease:

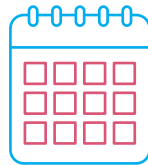
Lyme disease has been reported in **80 countries** around the world.<sup>2</sup>

In the US and Europe, Lyme disease is the **most commonly reported vector-borne disease**.<sup>3,4</sup>



## When to be alert:

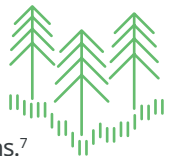
Ticks are most active **between April and November**, but tick exposure can occur year-round.<sup>5</sup>



## Where to be alert:

Ticks are most often found in grassy, wooded or bushy areas such as **parks, gardens, forests and meadows**.<sup>6</sup>

Be aware that ticks can also be present in urban parks and gardens.<sup>7</sup>



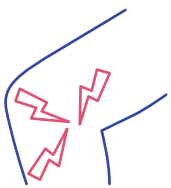
## What to look out for:

Lyme disease is typically characterized by a **circular red rash** in approximately **70-80%** of those infected with a clear central zone that forms around the tick bite.

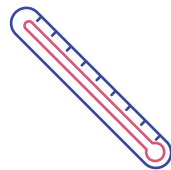


The 'bullseye rash' usually appears within the first **four weeks of infection** and may **last for several weeks**.<sup>8</sup>

People infected can also experience:<sup>8,9</sup>



Arthritis and severe joint pain



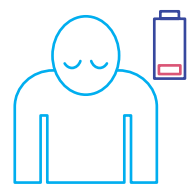
A high temperature



Headaches and neck stiffness



Facial palsy



Tiredness and loss of energy

Lyme disease is **often misdiagnosed** and **early symptoms are often missed**.<sup>9</sup> Left untreated **serious long-term complications can develop**. Some patients continue to experience symptoms even after treatment.<sup>8,9</sup>

## How to help protect yourself:<sup>8,10,11</sup>



Using insect repellents during outdoor activities



Wearing light-colored clothing, including long sleeve tops and long pants tucked into socks



Checking your body regularly for ticks and shower after spending time outdoors to prevent any ticks from attaching



Remove tick within 24 hours to reduce risk of transmitting bacteria, and monitor any symptoms for 30 days

Consider **talking to your healthcare provider** if you live in an area **where Lyme disease is common**.

## References

1. Pfizer and Valneva Initiate Phase 3 Study of Lyme Disease Vaccine Candidate VLA15. August 2022. Available from: <https://www.pfizer.com/news/press-release/press-release-detail/pfizer-andvalnevainitiate-phase-3-study-lyme-disease>. Accessed: March 2024.
2. Gazendem N, Yeung C, Farina JM, *et al.* Lyme & Heart. The NET-HEART Book: Neglected Tropical Diseases and other Infectious Diseases affecting the Heart. *Elsevier Science & Technology*. 2021. Pg 62. DOI: 10.1016/B978-0-323-91122-1.00010-6.
3. Kugeler KJ, *et al.* Estimating the frequency of Lyme disease diagnoses—United States, 2010–2018. *Emerg Infect Dis*. 27(2). (2021).
4. Burn, L, Tran, TMP, Pilz, A, *et al.* Incidence of Lyme Borreliosis in Europe from National Surveillance Systems (2005–2020). *Vector Borne and Zoonotic Diseases*. 2023;23(4):156-171. DOI: 10.1089/vbz.2022.0071.
5. New Hampshire Department of Human & Health Services. Tickborne Diseases. Available from: <https://www.dhhs.nh.gov/programs-services/disease-prevention/infectious-disease-control/tickborne-diseases>. Accessed: March 2024.
6. Centres for Disease Control and Prevention. Preventing Tick Bites on People. Available from: [https://www.cdc.gov/ticks/avoid/on\\_people.html](https://www.cdc.gov/ticks/avoid/on_people.html). Accessed: March 2024.
7. UK Health Security Agency. Be Tick Aware Toolkit: raising awareness of the potential risk posed by ticks and tick-borne disease in England. Available from: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1149305/Be\\_tick\\_aware\\_toolkit.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1149305/Be_tick_aware_toolkit.pdf). Accessed: March 2024.
8. Centres for Disease Control and Prevention. Lyme disease. Signs and Symptoms. Available from: [https://www.cdc.gov/lyme/signs\\_symptoms/index.html](https://www.cdc.gov/lyme/signs_symptoms/index.html). Accessed: March 2024.
9. Steere AC, Strle F, Wormser GP, *et al.* Lyme borreliosis. *Nature Reviews Disease Primers*. 2016;2:16090.
10. Centres for Disease Control and Prevention. Diseases Spread by Ticks. Available from: <https://wwwnc.cdc.gov/travel/page/diseases-spread-by-ticks#:~:text=Preventing%20Tick%20Bites,-No%20vaccine%20is&text=Dress%20appropriately%3A%20wear%20light%2Dcolored,citronella%2C%20are%20not%20effective>. Accessed: March 2024.
11. Centres for Disease Control and Prevention. Transmission. Available from: <https://www.cdc.gov/lyme/transmission/index.html>. Accessed: March 2024.