



Lyme disease is a **bacterial infection** that can be **spread to humans by infected ticks**.

Early diagnosis and treatment can lead to a resolution for many patients.

Late or missed diagnosis can result in **persistent and debilitating symptoms**.

Key points

- The **erythema migrans rash is diagnostic of Lyme disease** and there is no need to perform a blood test before starting treatment.
- Approximately **30% UK patients** may have no rash and may not recall a tick bite.
- **Do not rule out Lyme disease with negative test results** - a high index of suspicion is necessary.
- Consider starting antibiotic therapy whilst waiting for blood test results.
- There is **no test for cure** and **no test to monitor disease progression**.
- If an ELISA test is carried out within 4 weeks of being bitten, **repeat the test at the 4-6 week mark** to allow antibodies to form.
- If Lyme disease is still suspected in people with a negative ELISA who have had symptoms for 12 weeks or more, perform **an immunoblot**.
- The **NICE Lyme disease guideline allows for two 21 day courses of antibiotics** if symptoms persist.



Why Lyme disease infections can be missed or under-treated

- The **possibility of a Lyme disease infection not being considered**.
- The **erythema migrans (Lyme rash) not being present or recognised**.
- Being prescribed an **incorrect dose or duration of course of antibiotics** and/or a **second course not considered**.
e.g. Antibiotics for children are much higher doses than for other childhood infections.
- **Relying on a positive blood test for diagnosis** before treating with antibiotics or **testing too early**.

Lyme Disease UK is a UK charity providing patient support and raising awareness of Lyme disease.

We want to ensure that all patients seeking medical advice for a tick bite, **erythema migrans (Lyme rash)** or symptoms of Lyme disease receive the correct advice, timely diagnosis and treatment. **One of our goals is to raise awareness of Lyme disease and early symptoms with primary care physicians to help improve long term outcomes for patients.**

Scan the QR code to visit Lyme Disease UK Clinicians Hub for links to:

- [RCGP Lyme Disease Toolkit](#)
- [NICE Lyme Disease Guideline](#)
- [BMJ Treatment Choices for Lyme Disease](#)
- [Update your practice with slides and short animation on current practice guidelines](#)
- [The RCGP/Lyme Disease Action eLearning Module](#) (free to all health professionals)



Ticks and Lyme disease

- Ticks have been **found in every county in the UK** and can be active all year round.
- Ticks can be found in woodland areas as well as in **urban parks and gardens**.
- **Ticks can be tiny** and the size of a poppy seed.

The erythema migrans rash

- Only 30% people experience an EM rash.
- The **rash can appear up to 3 months after being bitten** by an infected tick, but usually appears within 1 to 4 weeks. **It can last for several weeks.**
- The rash can have a darker or lighter area in the centre and **might gradually spread**.
- Is **not usually hot or itchy**.
- The rash may be **flat, or slightly raised, and look pink, red, or purple** when it appears on white skin. It can be harder to see the rash on brown and black skin and it may look like a bruise.

Symptoms

- Early Lyme disease symptoms can include **flu-like symptoms, fever and sweats, malaise, migratory myalgia or arthralgia, neck pain, brain fog, fatigue and paresthesia**.
- Lyme disease may present with acute or chronic multi-systemic signs and symptoms, weeks, months or even years later, if not diagnosed early. For example: **facial palsy, meningitis, dizziness, unexplained radiculopathy, encephalitis, neuropsychiatric presentations, inflammatory arthritis, neurological conditions, cardiac problems, ME/CFS, fibromyalgia, uveitis or keratitis, skin rashes**

Testing

- **The erythema migrans rash is diagnostic of Lyme disease and there is no need to perform a blood test before starting treatment.**
- False negatives and false positive blood test results are possible. There is **no test for cure** and **no test to monitor disease progression**.
- If an ELISA test is carried out within 4 weeks of being bitten, repeat the test at the 4-6 week mark to allow antibodies to form. Use an immunoblot test for symptoms that persist beyond 12 weeks.
- **Do not rule out Lyme disease with negative test results** - a high index of suspicion is necessary.
- Consider starting antibiotic therapy whilst waiting for blood test results.
- The **NICE Lyme disease guideline allows for two 21 day courses of antibiotics** if symptoms persist.

Further Resources

There are **genuine scientific uncertainties surrounding both diagnosis and treatment of Lyme disease**. The NICE guideline committee noted the poor-quality evidence available on both diagnosis and treatment. Further research was recommended.

If you are interested in learning about research into Lyme disease and other tick-borne infections, find out more from: [Liverpool School of Tropical Medicine](#) and [Johns Hopkins Lyme Research Centre](#)

