

Lyme Disease

Key facts and top tips.

Lyme disease, or Lyme borreliosis, is a bacterial infection spread to humans when they are bitten by an infected tick.

- It's estimated there are 2,000 to 3,000 new confirmed cases of Lyme disease in England and Wales each year, although not all cases are confirmed by laboratory testing.
- About 15% of cases are acquired while people are abroad.
- Lyme disease can be treated effectively if it's detected early on. But if it's not treated or treatment is delayed, there's a risk of developing long-lasting symptoms.
- Lyme disease can be transmitted by the bite of a tick infected with *Borrelia burgdorferi* bacteria.

In the UK, the most important tick species to human health is *Ixodes ricinus*, more commonly known as the sheep, castor bean or deer tick.

This species can be found feeding on humans and is the principle vector of LD.

How Lyme disease can be prevented

- There is no vaccine for LD, so improving tick awareness and adopting tick bite prevention behaviours are the best measures to reduce the risk of developing LD
- The key message from PHE is to "be tick aware". Members of the public who are tick aware should know the following:
 - What ticks are and what they look
 - Where they might be exposed to ticks
 - How to carry out regular tick checks
 - How to safely remove attached ticks if they are found
 - How to spot disease symptoms

Early symptoms of Lyme disease

- Many people with early-stage Lyme disease develop a distinctive circular rash at the site of the tick bite, usually around 1 to 4 weeks after being bitten. This is known as 'erythema migrans'. The rash is often described as looking like a bull's-eye on a dart board. The affected area of skin will be red and the edges may feel slightly raised.
- The size of the rash can vary significantly and it may expand over several days or weeks. Typically it's around 15cm (6 inches) across, but it can be much larger or smaller than this. Some people may develop several rashes on different parts of their body. However, around one in every three people with Lyme disease do not report seeing a rash.



Information for people with Lyme disease

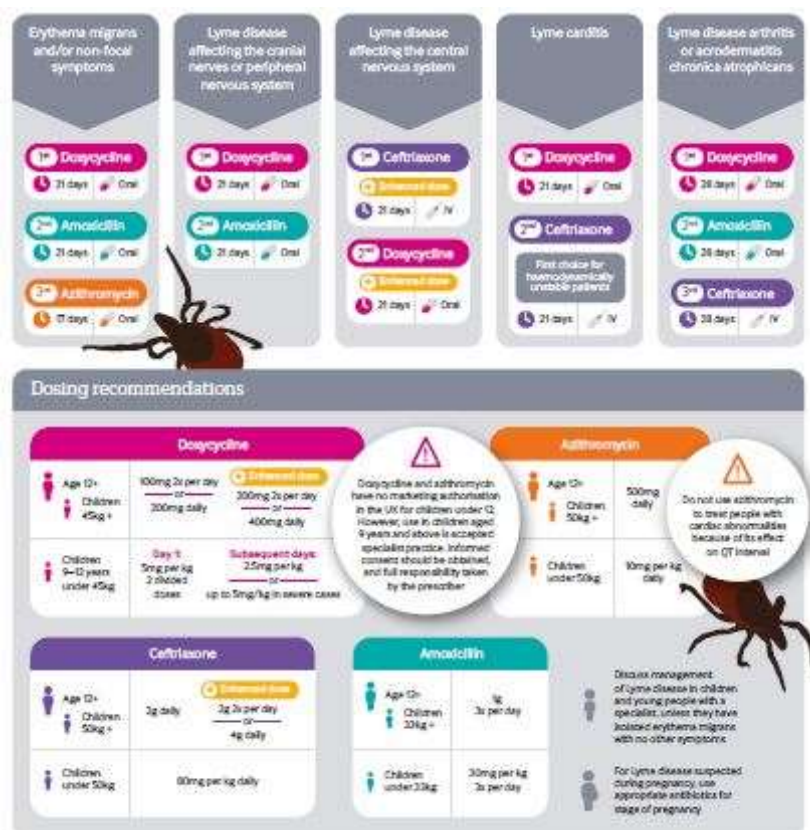
Explain to people diagnosed with Lyme disease that:

- Lyme disease is a bacterial infection treated with antibiotics
- Most people recover completely
- Prompt antibiotic treatment reduces the risk of further symptoms developing and increases the chance of complete recovery

Clinical Assessment Tips

- Diagnose Lyme disease in people with erythema migrans - this rash is not usually itchy, hot or painful.
- Be aware that a rash, which is NOT erythema migrans, can develop as a reaction to a tick bite that usually develops and recedes during 48 hours from the time of the tick bite. This is more likely to be hot, itchy or painful
- Consider the possibility of Lyme disease in people presenting with several of the following symptoms, because Lyme disease is a possible but uncommon cause of
 - Fever, sweats and swollen glands
 - Malaise and fatigue
 - Neck pain or stiffness
 - Migratory joint or muscles aches and pain
 - Cognitive impairment Headache
 - Parasthesia
- Consider the possibility of Lyme disease in people presenting with sand signs relating to 1 or more organ systems (focal symptoms) because Lyme disease is a possible but uncommon cause of:
 - Neurological symptoms, such as facial palsy, meningitis, encephalitis
 - Inflammatory arthritis affecting 1 or more joints that may be fluctuating and migratory
 - Cardiac problems, such as heart block or pericarditis
 - Eye symptoms, such as uveitis or keratitis
 - Skin rashes such as acrodermatitis chronica atrophicans or lymphocytoma.
 - Follow usual clinical practice for emergency referrals, for example, in people with symptoms that suggest central nervous system - infection, uveitis or cardiac complications such as complete heart block, even if Lyme disease is suspected

Antibiotic choices



- NICE provides guidance on choice of antibiotic for the treatment of Lyme disease.
- NICE recommends offering one initial course of antibiotics, and considering a second course of an alternative antibiotic for people with ongoing symptoms
- If a person's symptoms continue following two completed course of antibiotics, their advice is to consider referral to a specialist appropriate for the person's symptoms
- Oral Doxycycline for 21 days is First line treatment, other treatments include amoxicillin, Azithromycin and IV ceftriaxone depending on symptoms - The BMJ has published an excellent visual summary detailing antibiotic choice

Further Information sources

NICE guideline 95: Lyme Disease Published 11/4/2018

PHE: Lyme disease: resources and guidance July 2018

Thebmj Visual summary Lyme disease: Antibiotic choices 2018