

### Do other diseases accompany Lyme disease?

Several other infections can sometimes be found in tick secretions. If these are also passed into the bloodstream, they too may establish and complicate the symptoms and outlook.

### Will my doctor treat me for Lyme disease?

If you have this diagnosis your doctor should treat you. However, many doctors are not familiar with treating Lyme patients. In this case, you may do better to see a doctor who is familiar with the disease. Always try to keep your GP involved and informed. A worsening of symptoms called a Jarisch-Herxheimer reaction may complicate the start of treatment. This does not occur in every case but if it should occur further medical advice should be taken. Lyme disease is an infectious disease and the primary aim of treatment is eliminating the infection by the use of antibiotics. Other medicines may also have a place in treatment. Response to treatment varies from patient to patient.

### Can Lyme disease be prevented?

There are many measures you can take to protect yourself from ever falling victim to this nasty infection. There is however, no vaccine available at present. Prevention relies on people being aware of the risk that ticks present and using sensible measures to avoid being bitten. These measures include wearing suitable clothing and frequently checking the skin for ticks. It is also essential to know how to remove a tick properly if it is still present and to go promptly for medical advice if you notice any symptoms. Lyme Disease Action publishes a leaflet about tick removal.

### How do I know if I've got Lyme disease?

Lyme disease is not an easy diagnosis to make. This is especially so if the patient has no rash

and does not recall an episode of tick bite. If a patient remembers a tick bite and then becomes unwell, Lyme disease is a possibility. There is no diagnostic test that is absolutely reliable in excluding a case of Lyme disease. Negative test results therefore, do not necessarily mean it is absent. After all exclusionary tests have been done; the diagnosis can be made on clinical grounds alone.

### Does Lyme disease affect mental functioning?

Like some other diseases caused by spirochaetes, there is a possibility that the infection can cross into the central nervous system. If the infection proceeds along this course then symptoms that affect mental function may occur. If the illness proceeds to this neurological stage, it is termed neuroborreliosis. This serious condition needs skilled treatment.

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### Further Information

All our leaflets are available free of charge from our website where you can find out more about Lyme disease, including links to many other resources. [www.lymediseaseaction.org.uk](http://www.lymediseaseaction.org.uk)

Leaflets are also available from:

**Lyme Disease Action,  
PO Box 235, Penryn. TR10 8WZ. UK**

Including a donation/sae will help us in our work for people affected by Lyme disease.

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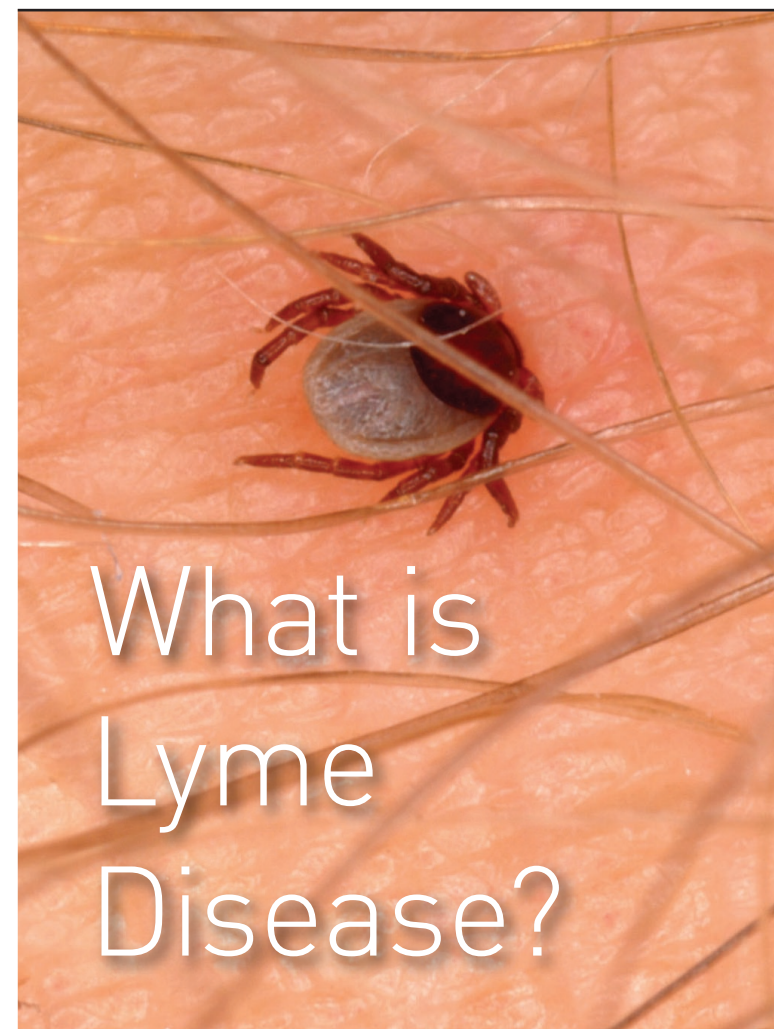
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### What is Lyme disease?

Lyme disease, also known as Lyme borreliosis, is an infectious disease caused by the bacterium *Borrelia burgdorferi*. The disease is classified by the World Health Organisation as an infectious or parasitic disease. *Borrelia burgdorferi* belongs to the bacterial genus 'Borrelia'. These in turn are members of a larger family of bacteria called Spirochaetes.

### How does Lyme disease infection occur?

In nearly all cases it is transmitted to humans by the bite of a tick infected with these bacteria. In a population of ticks, only some will carry the infection.

### What is Borreliosis?

The disease resulting from infection with *Borrelia burgdorferi* is referred to as Lyme disease or Lyme borreliosis. There are many species of Borrelia bacteria worldwide, not all of them cause disease. Three species are currently known to cause disease in the UK. They are *Borrelia burgdorferi sensu stricto*, *Borrelia afzelii* and *Borrelia garinii*. They are very closely related and all cause a broadly similar disease process. An infection caused by Borrelia bacteria can be termed a 'borreliosis.'

### How does Lyme disease start?

A clinical case of Lyme disease occurs when a person is infected by a tick bite. Symptoms may follow after an incubation period that can last between two and thirty days. However, on some occasions, the bacteria do not cause disease straight away. The bacteria can enter a phase in which they do not cause symptoms but are still present. They may still have the potential to cause active disease at a later stage.

### What are the symptoms of Lyme disease?

Lyme disease can affect any part of the body and cause many different symptoms. The commonest symptoms relate to the person feeling unwell, having flu-like symptoms, extreme tiredness, muscle pain, muscle weakness, joint pain, upset digestive system, headache, disturbances of the central nervous system and a poor sleep pattern. In some cases a characteristically shaped, expanding 'Bull's eye' rash appears on the skin. However, a rash in any form is not a universal symptom. If the rash does occur, it is termed Erythema migrans or EM rash. It may manifest in a chronic form and be known as Erythema chronicum migrans or ECM rash. The list of symptoms known to be associated with Lyme disease is long and diverse. The symptom pattern varies from person to person.

### What are the commonest symptoms at onset?

Early symptoms can include feeling unwell or 'flu-like', EM rash, headache, stiff neck, muscle pain, tender glands and sensitivity to temperature, sound and light levels.

### How prevalent is Lyme disease in the UK?

There are in the region of 500 confirmed cases each year in the UK. The Health Protection Agency (HPA) acknowledges that confirmed cases do not necessarily reflect all the cases of the disease. HPA official estimates suggest there could be up to 2,000 new cases occurring in the UK every year. Since full recovery may not take place in many cases, the total number of people affected is accumulating.

### Who gets Lyme disease and Why?

In the United Kingdom, Lyme disease is carried by the sheep tick, *Ixodes ricinus*. This tick can also feed on deer and other wild mammals and birds. The tick prefers to live in woods, heath and

moorland, although it does not occur exclusively in these habitats. People who live in the parts of the country where the tick is prevalent are likely to be at greater risk. However, cases of the disease are widespread and it is possible that the full picture of tick distribution is not yet fully understood. Anyone can get Lyme disease if a tick that is carrying the infection has bitten them.

### What is the treatment for Lyme disease?

The outlook varies from person to person. Whilst it is extremely unusual for the illness to be fatal, symptoms can range from mild to very severe. It is not in a patient's best interests for the disease to remain untreated. Treatment is with antibiotics and is most effective if started as early as possible in the disease. The patient may be clinically cured if treated promptly. Treatment regimes are aimed at reduction and elimination of the bacteria. If there is delay before treatment is begun, there may be less chance of a full recovery.

### Is Lyme disease a new illness?

Studies of the DNA taken from ticks in the Natural History Museum show the infection was in the UK in Victorian times. Therefore, it is almost certainly not a new illness. However, it does appear to be becoming more common.

### Is there a test for Lyme disease?

The Centers for Disease Control and Prevention (CDC) state that the diagnosis of Lyme disease is based on symptoms, physical findings and the patient's history. There are several laboratory tests that aim to detect this infection, however, none of them are absolutely reliable in excluding Lyme disease. If positive they support the diagnosis.