

# Lyme Disease in Ireland



## Tick Talk Ireland

"Encouraging awareness, prevention and treatment of Lyme Disease (Borreliosis) in Ireland."

✚ "Seroprevalence studies report the Republic of Ireland [County Galway region] as having one of the highest rates of Lyme disease in Europe."  
Dept of Neurology, University Hospital Galway

✚ "The risk of Lyme disease in Ireland may increase as a result of climate change."  
Dept of Community Health, Co Kildare.

✚ "Lyme disease is a diagnosis that is often overlooked by clinicians."  
Health Protection and Surveillance Centre, Dublin

✚ "Ticks infected with *Borrelia* were numerous on the edges of paths in a recreational park, south-western Ireland."  
Professor JS Gray, University College Dublin

✚ "Counties Wicklow, Kerry and Cork are known high-risk areas."  
Dr Eoin Healy, University College Cork

Inside this brochure you will learn how to protect yourself from the dangers of Lyme and other tick-borne diseases.

## What is Lyme Disease?

Lyme Disease (*Borreliosis*) is a bacterial infection transmitted by the bite of ixodid (hard-bodied) ticks. Not all ticks are infected with *Borrelia*, however vigilance is recommended where ticks are present, to reduce the risk of transmission to humans and pets.

Lyme can cause a variety of symptoms ranging from mild to severe. Known as the "Great Imitator", Lyme can mimic other diseases such as Parkinson's, multiple sclerosis and chronic fatigue syndrome. Early treatment is vital to prevent serious complications.

**Stage One** – within days to weeks of a bite from an infected tick, an expanding rash may occur. Sometimes the rash (known as erythema migrans), will appear as multiple concentric rings forming a bull's-eye pattern. **It is important to note that the EM rash may NOT develop or be noticed in some patients.** A flu-like illness may also occur in the early stage of disease.

**Stage Two** – otherwise known as disseminated disease, symptoms may include migratory joint pain, head and neck pain, sore throat, swollen glands, Bell's palsy (facial paralysis) and severe fatigue. Cardiac problems may occur as well as bladder irritation in the form of Interstitial Cystitis. Some patients may miss stage one of the illness and develop disseminated disease within months to years of the initial bite.

**Stage Three** – symptoms for late stage Lyme disease may include neurological changes such as tingling, numbness and tremours. Nerve pain, poor temperature control, brain fog and disturbed sleep patterns are common. Complications may include optic neuritis, depression, panic attacks, muscle weakness, tissue damage, meningitis and chronic arthritis.

## Types of Lyme in Ireland

Lyme was named after the town of Lyme in Connecticut, where a cluster of cases was identified by Polly Murray in the 1970s. The official name for Lyme is *Borrelia burgdorferi* after William Burgdorfer who identified the causative agent of Lyme in ticks. Studies by the University of Bath however have identified that Lyme has been present since the ice age in Europe.

In Ireland the types of infection carried by ticks include *Borrelia garinii* (usually resulting in neurological problems) and *Borrelia afzelii* (usually resulting in skin manifestations such as rashes and ACA – a thinning of the skin). *Borrelia sensu stricto* is widely found in North America however cases have been identified in Europe. This strain commonly causes long term arthritis though neurological complications do occur. A tick may transmit several other co-infections including *Mycoplasma*, *Babesia*, *Bartonella* and *Anaplasmosis*.



## Treatment

The length of treatment on antibiotics depends on the severity and stage of the disease and existing co-infections. Intravenous antibiotics may be required for treatment of late stage, disseminated disease.

## Protecting yourself from Lyme Disease

Prevention is better than cure. Ticks prefer areas of dense vegetation, fallen leaves and tall grasses. To avoid these areas stick to footpaths when out walking and tuck trousers into socks. A repellent containing DEET can be used. This will not kill ticks but may help to repel them. Wear clothes with a shiny surface to prevent ticks from clinging on.

At the end of your walk check yourself and family members, particularly children, for signs of ticks. Ticks may crawl under clothes for a while before seeking a place to feed. If a tick has not attached there is very little danger of infection. Tick checks are therefore important; to ensure they are safely removed BEFORE infection can occur.



Remember to check in tucked away places such as in the hair, behind the ears, in the groin area and at the back of the knee. If you can, shower on your return home and place clothes in a hot dryer to kill off any remaining ticks. Check pets before they enter the house for loose or attached ticks in their fur to prevent them being brought into the house. If you do see any ticks in Ireland, we have a tick study available at: [www.ticktalkireland.org/surveys.html](http://www.ticktalkireland.org/surveys.html)

## How do ticks survive?

Ticks are in the class of arachnids (related to spiders and mites). A blood-fed female drops off her host where she can lay up to 2000 eggs. When they hatch, the larvae are very small (the size of a full-stop) with only six legs. They crawl onto grass and detect carbon dioxide and heat from passing animals. They assume a position called 'questing' to allow them to latch on to their host. Whilst feeding, a tick increases in size and begin to take on the shape of a raisin – an engorged tick is one that has fed for several days.

When full the tick will drop off and moult and the larvae



develop two more legs. A nymph tick will seek another blood meal (they are still tiny at about 1.5mm). Their small size can make them very difficult to spot. After another feed they

will moult again and mature into adults, where they will seek a mate for the life cycle to continue.

Ticks are born survivors and can go for months without food. They are mostly active during the spring and summer months. Ticks prefer moist, damp areas so are well suited to the Irish climate! For their blood meals the larva and nymph ticks prefer as their hosts ground feeding birds (such as thrushes and blackbirds), mice and hedgehogs. Adult ticks may target larger animals such as sheep and deer. Dogs can readily pick up ticks from the undergrowth so remember to check your pets and use a repellent where possible.

## What to do if you've been bitten

Ticks embed themselves into the skin for feeding. They use cement like material in their saliva to latch on. It is important when removing not to leave the mouth parts behind as this could cause a secondary infection. Remove gently with a tick twister or fine tipped tweezers, ensuring that you pull upwards very close to the skin. Wipe the area clean with an antiseptic wipe. Do not smother, burn or squash the tick as it may regurgitate its stomach contents if placed under stress, which could increase the chance of infection. Place the tick safely in a sealed plastic bag and write the date it was removed on the bag or on a calendar.

If the removed tick is engorged and bloated ask your GP for a precautionary course of antibiotics. If the tick is embedded but not engorged, check for symptoms or signs of a rash and go to your doctor immediately if you have any suspicions you may be infected. If possible, take photos of any rashes if they occur.

Blood tests are available, however these may be false negative if tested too soon as antibodies may not be present in sufficient numbers. Late Lyme disease may deplete the immune system causing similar problems. Antibiotic treatment can also affect results. Lyme requires a clinical diagnosis which may be supported by serology; however blood tests alone should not be used to rule out a Lyme diagnosis.

For pictures of rashes and more information on symptoms, testing and treatment please visit us at:

**Tick Talk Ireland:**  
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