

Archaeology and Tick-borne Diseases

FAME Advice for Archaeological Practitioners

The FAME Health and Safety Guides are produced by the FAME Health and Safety Working Group to provide advice to its members to foster safe systems of work for development-led archaeological practice. They are not designed to replace existing, detailed guidance available from the Health and Safety Executive (HSE) / Health and Safety Authority (HSA) and other bodies, and must always be used in conjunction with that guidance, clearly referenced in each guide, where applicable.

FAME Health and Safety Guide 5: Archaeology, Lyme Disease & Ticks

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1 Introduction

This guide reviews the two most serious¹ diseases that archaeologists in the British Isles could contract from ticks, tick-borne encephalitis virus (TBEV) and Lyme disease, and provides details on how to mitigate the risks.

2 Key notes

- archaeologists are at increased risk of tick-borne diseases due to where we work and Climate Change;
- archaeologists will likely need to be proactive and discuss their potential risks with their GPs if they start to experience symptoms;
- tick-borne encephalitis virus is extremely rare in the British Isles, but can be deadly, and there are indications it is increasing in frequency;
- Lyme disease is more common but treatable;
- early treatment and preventative measures are key to managing these risks.

3 Lyme disease

Lyme disease is a bacterial infection spread by infected ticks and is usually easier to treat if diagnosed early. Most ticks do not carry the bacteria that cause Lyme disease, but it is still important to safely remove them as soon as possible.

3.1 Symptoms

Many people with early symptoms of Lyme disease develop a circular red skin rash around a tick bite, usually referred to as a 'bullseye' rash

¹ Ticks can transmit several other diseases – Anaplasmosis, Babesiosis, Louping ill, Ehrlichiosis – but in most cases the symptoms are flu-like and while not pleasant, are not life-threatening or crimpling.

(see figure) – and sometimes the edges of the rash may feel slightly raised.



Photo Credit: CDC/ James Gathany, Public domain, via Wikimedia Commons.

The rash can appear up to 3 months after being bitten by a tick and usually lasts for several weeks. Most rashes, however, appear within the first 4 weeks. Not everyone with Lyme disease gets the rash. Some people also have flu-like symptoms in the early stages, such as:

- a high temperature, or feeling hot and shivery,
- headaches,
- muscle and joint pain,
- tiredness and loss of energy.

Some people with Lyme disease develop more severe symptoms months or years later. This is more likely if treatment is delayed. These more severe symptoms may include:

- pain and swelling in joints,
- nerve problems – such as pain or numbness,
- heart problems,
- trouble with memory or concentration.

That is why it is important to get treated as soon as possible.

3.2 Medical treatment

There are no vaccines to prevent Lyme disease, currently (early 2025), available for human use. However, new vaccines are now undergoing trials and may be available in the future. Lyme disease can be treated with antibiotics. An affected individual may need to take them for up to 28 days.

3.3 Ongoing symptoms

Most people with Lyme disease get better after antibiotic treatment, but a few people continue to have symptoms, like tiredness, aches and loss of energy, that can last for years. These symptoms are often compared to chronic fatigue syndrome and Long COVID. It is not clear why this happens to some people and not others.

4 Tick-borne Encephalitis Virus

TBEV is a viral infection that spreads through tick bites.

4.1 Symptoms

The virus that causes TBEV does not cause symptoms in most people. It can, however, cause a mild flu-like illness in some people. The symptoms usually go away on their own, but in rare cases, the infection spreads to the brain and causes more serious symptoms, even death, a few days or weeks later. These can include:

- severe headache,
- stiff neck,
- pain looking at bright lights,
- a fit (seizure), if not known to be epileptic,
- sudden confusion or change in behaviour,
- weakness or loss of movement in arms and legs,
- facial drooping, change in vision or slurred speech.

Urgent medical attention should be sought if any of these symptoms are experienced.

4.2 Medical Treatment

There is a vaccine for TBEV, but it is not available on the National Health Service (NHS) or Health Service Executive (HSE) and can only be bought privately. Unfortunately, there is no specific treatment for TBEV.

5 Prevalence

TBEV is very rare in the British Isles, though more common in continental Europe. Ireland has yet, as of early 2025, to have a confirmed case of it being acquired in Ireland. The rare recordings of it, in Ireland, are from people who were bitten by ticks in other countries. There are confirmed cases of it being acquired in England, however, the first one was only in 2022 and between 2019-2023 there were only 3 probable or confirmed cases recorded. It is so rare that it would normally not be worth reviewing in a FAME guide, however, it can be deadly and so deserves consideration. Moreover, there has been an upsurge of some species of ticks and the establishment of new ticks in the UK that has been linked to climate change². Thus, this disease may become more prevalent in the future.

Lyme disease is less rare but still uncommon. There are an estimated 4000 cases in the British Isles each year. Currently, studies estimate that 1% to 5% of tick bites can lead to Lyme disease. However, this range can fluctuate in different areas and has been found to be as high as 8-10% in some regions.

6 Increased risk for archaeologists

Archaeological work is common in environments where ticks live, such as wooded or grassed areas, areas with tall vegetation, and upland areas. While the majority of archaeological organisations and their

² <https://theconversation.com/ticks-are-becoming-a-growing-health-risk-in-the-uk-heres-why-211764>

offices are located in urban areas and thus archaeologists are likely to be registered with a GP in areas which have very few, if any, incidences of tick-borne diseases. GPs with little or no experience with these diseases may struggle to diagnose them.

A problem only made more difficult by the nature of Lyme disease, as it has similar symptoms to other conditions, and there is not always an obvious rash. Even blood tests can have issues detecting it in the early stages of the disease. Many people may need to be tested two or more times to confirm Lyme disease.

Archaeologists should let their GP know that their occupation puts them at higher risk for tick-borne diseases to give them the knowledge they need to correctly diagnose any illness.

Because the blood tests can take several weeks and be inaccurate, and Lyme disease is better treated early, some archaeologists opt to begin treatment with antibiotics when the first symptoms appear. You should discuss this option with your GP and see if this route of treatment may be right for you.

7 Prevention and mitigation

1. Familiarize yourself with the symptoms – see a GP right away if you start to experience them and have been in a high-risk area.
2. Ensure archaeological teams are equipped with tick removal tools, as well as anti-septic wipes.
3. To reduce the risk of being bitten:
 - cover your skin while walking outdoors and tuck your trousers into your socks;
 - use insect repellent on your clothes and skin – products containing DEET are best;
 - wear light-coloured clothing so ticks are easier to spot and brush off;
 - regularly check your clothes and skin for ticks, paying attention to hidden areas such as under straps and limb joints.

8 Removing a tick that has bitten you

If you are bitten by a tick, try to remove it as soon as possible. To remove a tick safely:

- use a pair of fine-tipped tweezers or a tick removal tool (you can buy these from some pharmacies, vets and pet shops);
- grasp the tick as close to your skin as possible and pull upwards slowly and firmly, as mouthparts left in the skin can cause a skin infection;
- take care not to squeeze or crush the tick. Dispose of it when you have removed it;
- and clean the bite with antiseptic or soap and water.

9 Further reading

What is Lyme disease and why do we need to be tick-aware?

<https://ukhsa.blog.gov.uk/2022/04/13/what-is-lyme-disease-and-why-do-we-need-to-be-tick-aware/>

Lyme disease: signs and symptoms

<https://www.gov.uk/government/publications/lyme-disease-signs-and-symptoms/lyme-disease-signs-and-symptoms>

Lyme disease

<https://www.nhs.uk/conditions/lyme-disease/>

Note: we would normally link to both UK and Ireland resources, however, the HSE guidance has been borrowed from the NHS.

FAME Health and Safety Guides

[Construction \(Design and Management\) Regulations 2015 \(2020\)](#)

[Safe Working Around Utilities \(UK\) \(2021, revised 2024\)](#)

[Near-Miss Reporting \(2022\)](#)

[Medication Side-Effects: Heat and Sun Sensitivity \(2023, revised 2025\)](#)

[Safe Working for Archaeologists as part of UK Construction Projects \(2024\)](#)