



## IS THERE A TICKING TIME BOMB UNDER YOUR SADDLE?

**Tick borne infection is on the increase.  
This affects your horse and YOU!**

### What are you at risk from?

Borreliosis (*Lyme disease*).

Intractable pain, disabling fatigue, heart block, paralysis and even psychosis.

### 1. Equine Lyme disease symptoms:

- \*Mild pyrexia
- \*Lethargy
- \*Weight loss
- \*Stiffness/lameness
- \*Muscle soreness
- \*Synovial effusions
- \*Laminitis
- \*Uveitis
- \* Behavioural changes and other neurological problems such as hyperaesthesia (excessive sensitivity) or ataxia (Loss of coordination)

### How does this affect you?

**Human Borreliosis** symptoms can range from:

Mild flu with fever in early infection, in late stage or chronic infection; migrating stiffness and pain (and less commonly arthritis). Myalgia (muscle pain), chest pain and palpitations, abdominal pain and nausea, diarrhoea, sleep disturbance, concentration and memory loss, mood swings, depression, blurred vision, eye, jaw & testicular / pelvic pain, tinnitus, vertigo, facial palsy (numbness, pain or tingling) or optic neuritis (eye nerve damage), headache, light headedness, dizziness, loss of feeling/altered skin sensation, muscle spasms and extreme fatigue.

A bullseye shaped rash (*Erythema Migrans*) can occur but studies show that as few as 40% of people develop this rash and that atypical rashes are far more common. Children often show decreased ability to understand schoolwork and intolerance to noise.

Both Equine and Human *Borreliosis* need prolonged and varied treatment with antibiotics.

### 2. Equine Ehrlichiosis Infection

*Anaplasma phagocytophila* (*Ehrlichia equi*) in horses

- Granulocytic *ehrlichiosis* in horses is a seasonal disease, most commonly occurring in autumn, reflecting the activity of the tick vectors at that time. This disease of horses characterized by fever, lethargy, stocking edema, Thrombocytopenia, leukopenia, anaemia, petechiae and possibly ataxia.

### Differential diagnoses:

- Equine infectious anaemia virus (EIAV)
- Equine arteritis virus (EAV)
- *Streptococcus equi* ("strangles")

### How does this affect you?

**Human granulocytic ehrlichiosis** has emerged as an important human health problem since 1990. Case fatality rates range from 0.7-4.9%.

- Patients present initially with vague signs of fever, which can progress to headache, muscle aches, nausea, cough, and neurological symptoms.
- Clinically, HGE and another strain called '**Human monocytic ehrlichiosis**' can be quite similar in appearances. In addition, both clinical presentations can overlap that of Lyme disease.
- Not surprisingly, since ticks are the vector for *phagocytophila* (HGE/HGM) and *Borrelia burgdorferi* (Lyme disease), dual infections have been documented in humans and in horses.

### Other Ehrlichiosis illnesses and victims

*Ehrlichiosis* is caused by an organism called *Rickettsia*. Other examples of *rickettsial* organisms are *Rickettsia rickettsii*, which causes Rocky Mountain Spotted Fever and *Ehrlichia risticii*, which causes Potomac Fever in horses.

### What is the threat in the UK?

Throughout the UK the main vectors for such infections are commonly accepted to include both deer and sheep ticks. Scientifically termed *Ixodes ricinus*, the sheep tick is also known to be able to infest deer and many other forms of wildlife. These ticks are known to transmit five diseases, such as Babesiosis in cattle as well as Louping Ill and tick fever in sheep.

### What are the symptoms?

**Ehrlichia** infection can cause a number of clinical signs. It can be extremely hard to diagnose due to the wide range of symptoms that can occur.

Infected people and animals may display:

Lethargy, weight loss, loss of interest in food, anaemia, haemorrhages under the skin or in and around the gums, swollen lymph nodes, muscular or joint soreness, nasal discharge or nosebleeds, severe neck or back pain, blood in the urine and eye problems. Neurological symptoms such as seizures and difficulty walking can occur. Respiratory or heart problems can occur. While early infection shows a number of symptoms with *Ehrlichia*, there is also a chronic infection that can occur if the acute infection is not treated. In this case, the more vague symptoms become very severe again when the immune system is stressed.

### 3. Babesiosis.

**Babesiosis** is another common infection transmitted by a tick bite and is most commonly seen in cows and dogs but affects horses and humans alike.

The worst cases are often described as a malaria-like infection; symptoms may include malaise, chills, myalgia, anaemia, fatigue, fever, nausea, night sweats, blood in the urine and weight loss.

### Ticks.

Research by scientists from the University of Oxford shows that these small, eight-legged, blood-sucking parasites - part of the mite family - are becoming more abundant, infecting cattle, sheep and humans with a range of diseases. They have also proved that the appearance of symptoms, in humans, varies from 1 to 6 weeks and may be as long as 3 months. Trials show that the common grey squirrel and pheasants also act as suitable hosts to transfer known infections throughout the tick population of the UK and that infected ticks currently populate the majority of the UK. Studies carried out would indicate that cases are being under-recorded.

Currently Scotland has the highest percentage of MS sufferers of any Western civilisation; and conditions such as M.E., chronic fatigue syndrome (CFS) or Fibromyalgia (FM) are steadily on the increase throughout the whole of the UK. It is possible these conditions are in reality misdiagnosed Borreliosis infections.

In an article titled "Inglorious Twelfth for the Grouse Moors", published in the Scotsman on Friday 13th Aug 2004, it was reported that in many areas of Scotland the grouse population has recently been in decline. Other studies carried out by scientists of The Game Conservancy Trust, would indicate this may be in part due to an increase in tick numbers. Scientists and Upland Advisors at the Game Conservancy Trust have followed the pattern of grouse breeding on Scottish moors for nearly two decades, and on some estates, the grouse counts show a continuing decline.

Veterinary science tends to follow clinical methods for diagnosis having recognised the inadequacy of current testing methods. When presented with such clinical symptoms as swollen lymph nodes, muscular or joint soreness, severe neck or back pain, blood in the urine, eye problems, seizures, difficulty walking, respiratory or heart related irregularities, anaemia or reduced platelet counts, a vet would prescribe a course of antibiotic treatment. Human medicine is still currently reliant on blood tests for diagnosis and so people with Borreliosis who have a negative test can subsequently be misdiagnosed with C.F.S and other conditions.

It has been demonstrated that the majority of confirmed Tick Borne Disease sufferers in fact recall no tick bite or associated rash assumed to follow the bite of an infected tick. Tick nymphs are the equivalent in size to a poppy seed and not easily observed. It is recognised that *Borrelia burgdorferi* (Bb.), the most commonly found bacterial infection amongst ticks, can be passed from mother to child during pregnancy. Bb. brings on a condition more commonly known as Lyme disease. Bb. is caused by a "spirochaetal" form of bacteria, which is similar, but much more advanced than syphilis. This would suggest that sexual transfer is a very real possibility. *Borrelia* (Lyme pathogens) have been extracted from breast milk, saliva and semen.

## Ticks and Tick-Borne Diseases.

**Babesiosis**, a parasitic infection, has been shown to be resistant to methods currently utilised by blood bank facilities to prevent cross-infection between donor and recipient. These and other such factors have combined to bring about what has been recognised as an emerging zoonotic infection of pandemic proportions.

In Scotland, Lyme disease is a notifiable disease yet not all physicians appear to be aware of such legal requirements. The British Army also classes Lyme disease as a notifiable disease. Troops in the field regularly inspect each other for ticks. In England and Wales there is a voluntary monitoring scheme employed. Similar methods used in the U.S missed up to 90% of cases so to use this method in the U.K seems highly inadequate.

For those lucky enough to have a GP who is aware of the possibility of infection following a tick bite, the only means of testing available on the NHS, is no more advanced than those available to vets.

Veterinary science has realised and recognised the flaws in testing methods and are more inclined to treat on clinical symptoms primarily.

Current NHS blood testing procedures are derived from a form of testing devised to measure the geographical spread and quantity of *Borreliosis* within a population. These procedures, or guidelines, were never intended to determine the level of active infection in a patient, and to date there is no officially accepted and reliable testing procedure available.

Clinical guidelines issued by such bodies as The American Food and Drug Administration (FDA), and The Centers for Disease Control and Prevention (CDC) clearly state that diagnosis should be based on clinical symptoms, serological testing cannot rule out a current infection. This is due to the fact that such infections are known to be able to live within the very muscle, tendon, tissue and organs that make up the body, these are not necessarily to be found free floating in blood samples drawn.

Unfortunately the current standard of testing available on the NHS is outdated and can easily lead to misdiagnosis. Many who subsequently test positive for Lyme disease, following blood tests carried out abroad, were previously diagnosed with ME/CFS.

For more information please view the following web site addresses.

<http://www.anapsid.org/lyme/riseinticks.html>

<http://www.canlyme.com/tom.html>

<http://health.groups.yahoo.com/group/EuroLyme/>

<http://www.ilads.org/index.html>

<http://www.lymediseaseaction.org.uk/>

<http://www.wildernetnetwork.org/LDpediatricfund.html>

Alternatively, for further information, please send an A5 size SAE for 46p (postage) to: BADA-UK (information service)

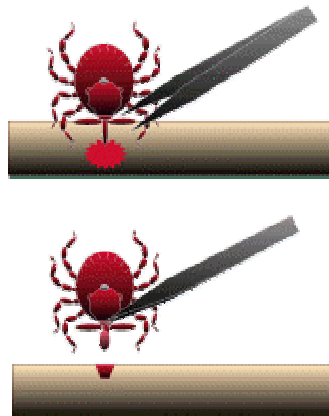
PO Box 70  
North Walsham  
NR28 0WX.

## What is the best way to remove a tick?

To remove an embedded tick, use the following procedure:

1. Use fine-tipped tweezers or shield your fingers with a tissue, paper towel, or rubber gloves.
2. Grasp the tick as close to the skin surface as possible and pull upward with steady, even pressure. Do not twist or jerk the tick; this may cause the mouthparts to break off and remain in the skin as well as possibly cause the tick to regurgitate infective saliva. *(If this happens, remove mouthparts with tweezers. Seek medical advice if concerned.)*

### Tick Removal



3. Do not squeeze, crush, or puncture the body of the tick because its fluids (saliva & gut contents) may contain infectious organisms.

4. Do not handle the tick with bare hands because infectious agents may enter through mucous membranes or breaks in the skin. This precaution is particularly directed to individuals who remove ticks from domestic animals with unprotected fingers.

5. After removing the tick, thoroughly disinfect the bite site and wash your hands with soap and water.

6. You may wish to save the tick for identification in case you become ill within several weeks. Your doctor can use the information to assist in making an accurate diagnosis. Place the tick in a plastic bag and put it in your freezer. Write the date of the bite on a piece of paper with a pencil and place it in the bag. Although not every tick carries Borreliosis or any of the known co-infections; English Nature in conjunction with DEFRA still advise "If a tick does attach, go to a doctor to have it removed, and to be prescribed preventive drugs (antibiotics) against Lyme disease".

**NOTE:** Tick removal implements can be purchased from your local veterinary practise. **Do Not** use *petroleum jelly* or burn the tick as this will stimulate it to release additional saliva, increasing the chances of transmission.

## How can you best prevent being bitten by a tick?

**Tuck trousers into socks** so any ticks that climb on will crawl on the outside and be less likely to bite. **Light coloured clothing** should be worn so the ticks will be easier to spot. Smooth materials such as windbreakers are harder for ticks to grab onto.

Tick repellents that contain "*permethrin*" can be sprayed onto clothing. Spray the clothes before they're put on, and let them dry first.

**Do not apply this chemical directly to the skin.**

Ticks are very intolerant of being dried out. After being outdoors in an infested area, place clothes in the dryer **on high heat settings** for 60 minutes to kill any ticks that may still be present. Note: Keep outdoor clothing in a tied plastic bag until it can be laundered.

Insect repellents that contain "DEET" are effective when applied to the arms, legs, and around the neck. **Do not** use any repellent over wide areas of the body, as they can be absorbed causing toxicity. **Do not** use a product that contains more than 50% DEET, and 25% concentrations are preferred. **Use caution** treating small children, as they are more susceptible to toxicity.

**This repellent evaporates quickly and must be reapplied frequently.**

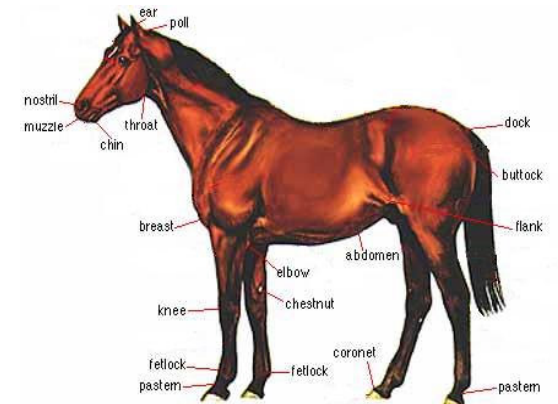
Check carefully for ticks not only when at home but frequently while still outside!

### Tick hot spots.

Regular checks should be performed and while ticks can attach anywhere there are certain areas more preferable where blood is closer to the surface of the skin and it is warm and secure. The tick will choose a place that it is not at risk of being brushed off easily and where it can remain undetected.

Grooming regimes should include a tick search as standard.

Returning from a ride or after the horse has been turned out is the optimum time for finding ticks.



To obtain further copies of this leaflet, or further details on Borreliosis and Associated Disease Awareness see:

[www.bada-uk.org](http://www.bada-uk.org)

**BADA-UK (Borreliosis & Associated Diseases Awareness UK)**