

APPENDIX 2: KNOWN OUTDOOR DISEASES: LYME, WEILS, *E. coli* AND OTHER ZOOZOSES

Working in the natural environment in the UK exposes staff and customers to a wide variety of known outdoor diseases. Appropriate precautions and control measures should ensure that the risk of becoming ill is reduced to at least that of any other recreational visitor to the countryside. Known outdoor diseases should have appropriate risk assessments and be included within COSHH statements. High standards of personal hygiene, the protection of cuts and abrasions from contact with infection sources and the management of eating and drinking are in the most effective control measures for the majority of these diseases, additional information and control measures are indicated below.

LYME DISEASE

Background

Lyme Disease in the UK is on the increase, probably as a consequence of warmer, moister winters. The incidence of the disease has increased ten-fold in the last 10 years with an estimated 1000-2000 cases reported in the UK each year. It is caused by a bacteria (*Borrelia burgdorferi*) which is normally transmitted to humans by infected soft-bodied (Ixodid) ticks.

The risk of contracting Lyme Disease depends upon many factors including:

- prevalence of *Borrelia burgdorferi* in an area - over 60% of UK cases of Lyme Disease are reported in southern England, with Exmoor being a known foci. The Lake District and Scottish Highlands are also known foci of relevance to FSC. If the increase in incidence is due to climate change these foci can be expected to change over time.
- presence of suitable habitat for the ticks - this is typically woodland, heathland or areas of bracken or long grass.
- presence of other hosts - humans are only incidental hosts with other mammals and birds resident in the area (both wild and domesticated, eg. sheep and pheasants) being the main hosts. Deer seem to be particularly important hosts in the known foci. Areas where these mammals congregate, eg. clearings in woods, or sheep and deer tracks through bracken or heather, are higher risk than areas where the mammals are more widely dispersed.
- time of year - the ticks tend to feed in late spring/early summer with another peak in the autumn.
- exposure to tick bites - the amount of time spent in the area is less important than the type of activities undertaken and the type of clothing worn. Incidences of the disease are rare amongst farmers, foresters and outdoor workers whilst picnickers in summer clothes and walkers in sandals are more likely to be bitten.

- length of time the tick has to feed after becoming attached - although most ticks do not carry the bacteria, those which do will not normally transmit it into the host person during the first 24 to 36 hours.

Managing the Risks

Since fieldwork, by its very nature, will involve working in some areas where Lyme Disease is a risk the following guidelines should be followed:

1. Minimise the time spent in the higher risk habitats during late spring/summer or in the autumn.

In practical terms this would be a hierarchy of actions from, in an extreme case, not using a site where people frequently get bitten by ticks to eating lunch in dryer open areas away from where animals congregate.

2. Taking appropriate precautions when in higher risk areas or when doing higher risk activities in late spring/summer or the autumn.

In practical terms this means wearing sound footwear and socks with long trousers. Long sleeved shirts with tight cuffs are ideal though short-sleeved shirts with tight cuffs are acceptable as the ticks are relatively easy to spot on the lower arms. In areas where the risk is unavoidably high applying insect repellent to the clothes and exposed skin will also act as a deterrent.

3. Checking for ticks after carrying out fieldwork in areas that pose a risk during late spring/summer or the autumn.

In practical terms this will involve a number of stages from students brushing down their clothing with their hands after finishing the work or at regular intervals, eg. when moving from one sample point to the next; to students showering thoroughly on return from the field, paying particular attention to armpits, back of knees, groin and lower abdomen.

4. Prompt removal of any ticks found. Once feeding, a tick may be more easily spotted as it becomes swollen with blood or it may manifest itself as a persistent itch. They should be removed as soon as possible.

In practice this means gripping the head of the tick and pulling firmly. Try not to squeeze the engorged body of the tick (tweezers or *O'Tom* tick removers can be of use here) and do not use heat or Vaseline to remove as this may encourage the tick to push possibly infected blood back into its host. After removal the area should be cleaned with an antiseptic wipe and covered if necessary to avoid secondary infection. If the tick's body breaks off and the remaining parts cannot be removed the site should be cleaned and dressed, and non-emergency medical assistance sought.

5. Informing Students of the Risks

Although engaging students with the risk management process will be an integral part of guidelines 1-4, it is also necessary to inform students of what to do if symptoms only appear after leaving the Centre - an increasing possibility with shorter courses. Students must be aware of the common signs and symptoms (rash around the site of the bite and/or flu-like symptoms) and if present that they must seek medical advice from their GP who needs to be informed that they have been on a field course.

6. Dealing with Incidents

Incidents of ticks needing to be removed should be recorded through FSC's normal accident/incident procedures so that any longer term patterns can be identified at the earliest opportunity. This would include any actual or suspected occurrences of Lyme Disease where medical assistance must be sought (Note. Lyme Disease is a notifiable disease under RIDDOR for FSC employees.)

WEILS DISEASE

Water Quality & Risk of Disease

For some fieldwork, sampling of water which is of poor quality is essential to the investigation being undertaken. Where water quality is poor (or suspect) students and staff should wear protective gloves. In addition, they should avoid water contact with the eyes or mouth and all small cuts should be covered with waterproof dressings. No-one should work in polluted water with more substantial wounds. Facilities to wash hands with soap or similar after fieldwork and prior to eating or socialising are essential.

On lowland slow flowing freshwater streams the risk of Weil's disease (Leptospirosis) means that the same precautions as for poor water quality should be taken (even if the water quality itself is good). An explanatory letter for accompanying groups is attached and should be distributed where the risk of Weil's exists. (Note: this letter could also be used if the groups have been handling small mammals or working in other areas where contact with small mammals is likely.)



Dear Sir/Madam

Re: The risk of infection with one of the waterborne diseases as a result of attending a field course

This letter is part of the precautions to alert you to the very faint possibility of infection by waterborne diseases whilst attending a field course. You may find it useful to copy this letter to parents or guardians of children taking part in a visit.

The FSC take great care to ensure that the risk of infection is managed through effective control measures. This ensures that the likelihood of becoming ill is very remote.

The National Curriculum and many of the Examination Boards mention topics such as the effects of pollution on freshwater communities, farming practices, etc. Attending a field course provides an ideal opportunity to study such topics at first hand. Such fieldwork, however, can expose people to the risk of a bacterial infection known as Leptospirosis. This infection is also known as Weil's Disease or Sewerman's Disease when associated with rats.

The risk of contracting such infections is **very low**. There are approximately 50 cases of Leptospirosis reported per year within the United Kingdom (less than 1 per million). If any student undertakes work or visits a site where there could be a possibility of infection they will be advised of the precautions they should take to minimise the likelihood of infection further. This letter is part of those precautions. If course participants develop any of the following symptoms within four weeks of their return from the field course they are advised to consult their family doctor, mentioning the possibility of Leptospirosis. Typical symptoms include:

- a feeling of having a 'flu-like' illness
- above normal temperature and/or a feeling of chill
- pains in joints and muscles - calf and back muscle pains being particularly noticeable

Treatment by antibiotics in the early stages is completely effective.

Yours faithfully

A handwritten signature in black ink, appearing to read 'Rob Lucas', written in a cursive style.

Rob Lucas
Chief Executive Officer

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PREGNANT WOMEN DURING THE LAMBING SEASON

Who is at Risk

Pregnant women who come into close contact with sheep during lambing may risk their own health and that of their unborn child, from infections that can occur in some ewes.

What is the hazard

Potential infections include chlamydiosis (enzootic abortion of ewes - EAE), toxoplasmosis and listeriosis, which are common causes of abortion in ewes.

Although the number of reports of these infections and human miscarriages resulting from contact with sheep are extremely small, it is important that pregnant women are aware of the potential hazards associated with close contact with sheep during lambing.

How can the risk be reduced

To avoid the possible risk of infection, pregnant women are advised that they should:

- not help to lamb or milk ewes;
- avoid contact with aborted or new-born lambs or with the afterbirth;
- avoid handling clothing, boots, etc which have come into contact with ewes or lambs.

Pregnant women should seek medical advice if they experience fever or influenza-like symptoms or if concerned that they could have acquired infection from a farm environment.

***Escherichia coli* O157**

The bacterium

E coli O157 is a bacteria commonly found in the guts of farm animals, pets, wild birds and wild animals.

It should be assumed to be present in the guts of all ruminants (cattle, sheep, goats and deer)

E coli is unusual in that very few individual organisms are needed to cause infection in humans.

The organism is very hardy and can survive months in the environment.

Route of infection

Infection is caused by contact with faeces or faecal material which may be present in soil, on grass, farm machinery, fences, buildings, water courses, footwear and clothing as well as on the hides and in the saliva of livestock.

Infection is most common but not exclusively in the months of July and August.

Young livestock (2-18months) are more likely to be excreting the bacteria.

Symptoms in humans

Symptoms in infected humans include bloody diarrhoea and stomach cramps.

The toxins the bacteria produce can cause kidney failure and can be fatal. Early medical attention is essential.

What is the risk?

HSE guidance [(AIS23(revised) and AIS2 revised)] identify the risk as generally acceptable and tolerable based on cultural and educational benefits. This advice is currently under review following the publication of the Griffin Report June 2010.

At the height of the 2009 farm outbreak the risk was between 4.7 and 10 in 1000 child visitors.

Who is at risk?

Any member of the general public, who visit farms or access pastoral environments are potentially at risk from *E coli*. This would include FSC employees and customers.

The most vulnerable individuals are the under 5's and over 75's, the main group at risk of infection are the under 10's accompanied by their parents or carers.

How can the risk be minimised ?

A thorough Risk assessment based on COSHH should be undertaken for the activity (refer to OCoP IM16 and OCoP P1)

Farm visits, as a specific activity, should be preceded by a letter to parents notifying them of the potential risk of ill health as a result of contact with micro-organisms.

Consideration should be given to selecting farms that have been accredited through LOtC or are registered through The Countryside Educational Visits Accreditation Scheme (CEVAS) Consideration should be given to providing suitable footwear (e.g. wellington boots) that can be washed after use.

Consideration should be given to clothing that can be removed and washed after use at 60°C

Clothing worn on farm visits should be separated from other clean clothing.
Control based solely on hand washing is flawed.

The best barrier to infection is to avoid contact with faeces or faecal material in the environment. This should be clearly explained and supervised.

Hand washing needs to be thorough and, on farm visits must be with running water and soap. Paper towels should be used to dry hands.

50% of young children do not adequately wash their hands so the activity should be supervised by a responsible person.

Sanitising gel is not a substitute for adequate washing of hands though it may be a useful addition. In remote locations sanitising gel is better than nothing.

Hands should be washed after contact with animals, before eating, on removal of footwear, and on return home.

Other considerations:

Where centres own or manage grazing land that is used for recreation it is advisable to exclude livestock for three weeks prior to organising recreational events (HSE guidance). Centre grounds and their use for recreational activities should be risk assessed in this context.



Dear Sir/Madam

Re: The risk of infection with *E coli* as a result of visiting farms and farmland during a field trip

This letter is part of the precautions to alert you to the very faint possibility of infection by *E coli* whilst attending a field course. You may find it useful to copy this letter to parents or guardians of children taking part in a visit.

The FSC take great care to ensure that the risk of infection is managed through effective control measures. This ensures that the likelihood of becoming ill is **very remote**.

The educational value of students gaining understanding and experience of farming in the UK is well recognised by the National Curriculum and examination boards. Attending a field course provides an ideal opportunity to study such topics at first hand. Such fieldwork, like any trip to the countryside, can expose people to the risk of a bacterial infection known as *E coli* O157.

The risk of infection has been considered to be low, (acceptable and tolerable) by the Health and Safety Executive, however children under 5 and the elderly are most at risk from the more severe consequences of the disease.

E coli can be present in the guts of farm animals, pets, wild birds and wild animals. It should be considered to be present in all cows, sheep, goats and deer. It can remain present in the faeces (dung) of animals for a long time.

The best way of reducing the likelihood of contracting the disease is to avoid contact with animal faeces or surfaces contaminated with faecal material. Avoiding touching livestock or allowing them to lick you is also advisable.

Thorough hand-washing with water and soap is strongly advised and it is important to stress to your students the importance of this before they eat or drink, and after removing footwear. We encourage visiting staff to assist with the supervision of hand washing for younger students. Sanitising hand gels are considered a useful addition, but are not a substitute for thorough hand washing.

We also recommend that students bring a plastic bag to keep clothes that need washing separate from other clothes, until they can be taken home and washed.

Yours faithfully

A handwritten signature in black ink, appearing to read 'M Bolland', is written over a light grey rectangular background.

Mark Bolland
Director of Operations

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