

African Horse Sickness

Question and Answer

Diseases once associated with foreign climates are now, as a result of climate change, more likely to pose a threat to the UK. The UK equine population is now vulnerable to viruses that no one ever believed would be seen on our shores. Transmitted by insects, diseases such as West Nile Virus, Swamp Fever (Equine Infectious Anaemia) and African Horse Sickness could, if they came to the UK, prove very expensive and disruptive to the equestrian industry. Disease could seriously impact markets, gatherings, sport and other activities.

About the disease

1) What is African Horse Sickness (AHS)?

A disease of equines (horses, donkeys, mules, zebras and their cross breeds) which is caused by a virus of the same group of viruses that causes Bluetongue (a disease affecting predominantly sheep and cattle). AHS can infect sheep and goats but rarely produces disease. AHS is a notifiable disease.

2) Where does it occur?

The disease is endemic in parts of sub-Saharan Africa. The disease has also been seen outside these areas in North Africa and the Middle East. It has occasionally occurred in Spain and Portugal, though has not become endemic (widespread and permanent) in these countries. The last outbreak of AHS in Europe was in Spain between 1987 and 1990. In South Africa outbreaks of disease are seen as regular, seasonal events.

3) Why is there concern about the disease?

This viral disease is spread by certain types of the same group of insects (Culicoid midges) that are the vectors (carriers) of Bluetongue. Bluetongue occurred in Northern Europe for the first time in 2006 and since then it has been found that Northern European midges are able to multiply and spread the virus responsible. There is concern that a similar situation could occur with AHS.

4) How does it affect equines?

The virus causes damage to the linings of blood vessels, the clinical signs are different depending on what strain of the disease is present.

5) What are the main characteristics of the disease?

- **In the most acute form;**
 - **a short incubation period of only three to five days**
 - **affected horses have a high fever**
 - **severely laboured breathing**
 - **coughing**
 - **profuse discharge from the nostrils.**

- **In the cardiac form;**
 - **an incubation period of from seven to fourteen days**
 - **swellings are present over the head and eyelids, lips, cheeks and under the jaw.**

- **The mixed form of the disease is a combination of the above two types;**
 - **an incubation period of from five to seven days**
 - **disease shows itself initially by mild respiratory signs followed by the typical swellings of the cardiac form.**
- **In the mildest form;**
 - **characterised by a fever with low temperatures in the morning rising to a high peak in the afternoon.**

6) Does AHS pose any risk to human health?

No. The disease only affects horses and other animals of the equine family e.g. donkeys, mules, zebras and cross breeds of these animals.

7) Are other animals affected?

Dogs which have eaten infected horse meat may become carriers of the disease. Wild animals (especially zebras) are probably the source of the virus in Africa. Other herbivores such as sheep and goats may become infected but are rarely ill.

8) How is the disease transmitted?

Generally the disease cannot be spread directly between animals. An insect vector of the Culicoides group is needed to both multiply the virus and pass virus during blood feeding between animals. Other biting insects such as mosquitoes and ticks have been found to carry the virus but are not thought to be as significant as Culicoid midges. There is no evidence as yet, like Bluetongue, that the midge can pass virus to the next generation of midges through the eggs. Therefore once infected midges die off in an area, new infections can only be spread when an infected horse is fed upon by a new generation of midges.

9) How does the disease spread?

In areas of Africa where the disease is seasonal: warm, moist weather allows midges to survive. Infected female midges spread virus to new equines when they take blood meals from them. As the population of midges increases, the disease moves forward. When the weather cools considerably and midges die off, the disease stops progressing. Infected midges can also be carried considerable distances by strong air currents, especially over water. In endemic areas the disease is present all year round. Some wildlife such as zebra can carry the virus without showing illness for 1-2 months.

10) Can people, animal feed, bedding or vehicles spread the disease?

No. An insect vector is needed. Although the virus can survive in the environment for a short time it must pass through the midge. Contaminated syringes could possibly spread disease if used on horses that had virus in their bodies.

11) Are the right type of Culicoid midges found in the UK?

The principal midge responsible for transmitting virus is the tropical midge *C. imicola* (as for Bluetongue). During disease investigations in the 1980's midges in the Iberian Peninsula were found to carry the virus. Since 2006 evidence shows that Northern European midges are capable of transmitting Bluetongue virus. Bluetongue virus is closely related to AHS. The risk to the UK posed by AHS, however, is considered extremely low

12)Can AHS be confused with other diseases?

There are similarities in symptoms with other diseases affecting equines. As with all forms of disease veterinary advice must be sought.

13)How severe is the disease?

The acute pulmonary (mainly affecting the lungs) form can have a mortality rate of 90% in horses, 50% in mules and 10% in donkeys. The cardiac form generally has a lower mortality but recovery time can be protracted.

14)Could the disease occur in the UK?

Yes it is possible. The Bluetongue outbreaks in N. Europe demonstrate that European midges are fully competent at transmitting the virus responsible. Changes in the biology of the midges might cause them to also transmit AHS. The outbreaks of AHS that have occurred outside its endemic range have been relatively short lived and have not occurred significantly far north. Experience in Africa has shown that in the temperate regions (e.g. South Africa) the disease is seasonal.

15)If I suspect I have a horse that could be showing symptoms of AHS what should I do?

AHS is a notifiable disease i.e. one that should be notified immediately to the local Animal Health and Veterinary Laboratories Agency (AHVLA). The contact details of your local AHVLA office can be found from the link below:

<http://new.wales.gov.uk/topics/environmentcountryside/helpandadvice/rateams/ahoffices/?lang=en>

16)Could the disease become endemic?

Experience so far is that the tropical midge is the principal method of transmitting the virus. Outbreaks outside the endemic areas have ended after a period of time and these have only been in Southern Europe. At present Northern European midges are not known to be competent vectors for the AHS virus so it is unlikely that the disease would establish or become endemic. Even in Southern Africa the disease is seen as a seasonal problem.

Restrictions

17)If there was an outbreak, how would it be controlled?

So far outbreaks of AHS in Europe have been confined to Southern Spain and Portugal. There have been no new cases since 1990.

As the disease can be spread by both horses carrying the virus and by infected midges, controls are aimed at creating movement barriers to possibly infected horses.

The African Horse Sickness (Wales) Regulations 2013 provides for compulsory notification and the setting up of a Protection Zone of at least a 100km radius around an infected premises and a Surveillance Zone of at least a further a 50km.. Within the Protection Zone there would be a 20km ring around the infected premises where all movements of horses are prohibited, stabling and protection

from midge attack could also be required. The Regulations can be found at the following link:

<http://www.legislation.gov.uk/wsi/2013/1662/contents/made>

18) How can I protect my horses from midges?

There can be very little done to control midges. Widespread use of insecticide would not remove all risk from the midges and can have a negative effect on the environment. There could be careful use of insecticides around stables and possibly those approved for use directly on animals may be employed. Reducing the risk of midge attack could also be achieved by thorough cleaning of stables and ensuring manure stacks were as far away from animals as possible. Midges are mostly active during dawn and dusk. Keeping horses inside buildings and away from risk areas during these times can reduce the risk of midge bites.

19) If my horse was at stables where an outbreak occurred what would happen?

The premises where disease occurred (Infected premises) would be restricted and any horses that were infected or suspected of being infected (showing clinical signs) could be destroyed. Any horses on the infected premises that were healthy would nevertheless be restricted to the premises.

20) Why is this different to the control of Bluetongue?

The disease is likely to be extremely severe in horses. It is important to remove as quickly as possible sources of virus in infected animals to reduce the opportunity for local midges to acquire the virus and possibly pass on virus to other horses.

21) Would Donkeys, Mules etc. be subject to the same controls?

Yes. Even though donkeys and mules may be less severely affected by the virus, they can be a source (during the viraemic phase) of virus to other animals when fed on by midges.

22) Could I continue to compete with my horse?

Movements would be restricted, horse racing, shows and all forms of equestrian sport would be affected. This would be subject to specific area controls (the Protection and Surveillance zones) .

23) Would there be compensation for affected animals?

No compensation is payable for a horse that, at the time it was killed, was affected with African horse sickness. Compensation may be paid for any horse that is killed to control the disease but is later found (through clinical tests) not to be affected by African Horse Sickness. Compensation is capped at £2,500.

Treatment and vaccination

24) What treatment is available?

There is no treatment currently available in the UK, as is the case for many viral infections. In the acute pulmonary form mortality would be very high. Some of those animals that did not die might nevertheless need to be destroyed. Where animals do not succumb, supportive treatment and intensive nursing would be necessary.

25) If horses recover are they immune from further attack?

There are 9 different strains (serotypes) of AHS and immunity is generally specific to recovery from or vaccination against that strain. Horses would be expected to be immune for a considerable period (years) after recovery but could possibly, if weakened and subject to massive attack by infected vectors, get the disease again.

Even if immune to one strain, horses would still be susceptible to infection from one of the other eight strains.

26) What protection can be given to horses?

Vaccination is used in endemic and seasonally affected areas outside the EU.

Some measure of protection can be given to horses from midges by housing them at the times of greatest midge activity (dawn and dusk) but this is not a complete protection. You could also consider providing summer sheets with additional neck and head coverage but again this cannot provide complete protection. Midges are extremely small so protection would need to be comprehensive i.e. stabling would need to be proofed to a very high standard to prevent midge entry.

27) Can horses be vaccinated against the disease?

There is no vaccine for any serotype of AHS currently available in the UK or other parts of Europe though research into safe and effective vaccines is on-going. Vaccines available in Africa are not suitable for use in the UK. A vaccine bank is being developed by the European Commission that will hold 100,000 doses of vaccine against seven different AHS serotypes. This vaccine will only be used in a strictly controlled matter in an emergency situation. Further information can be found in Commission Decision (2009/3/EC).

Vaccinating equines for AHS is prohibited unless a vaccination zone has been declared by the Welsh Ministers or a Veterinary Inspector has granted a licence or notice permitting or requiring such. Welsh Ministers may declare a vaccination zone, other than in a surveillance zone. Vaccination is not permitted within a surveillance zone as it is not always possible to distinguish between vaccinated and infected equines. Any occupier of premises in the vaccination zone must ensure all horses on their premises are vaccinated. Once vaccinated, a horse may not be moved from the premises on which it was vaccinated for at least 60 days since the date of vaccination.

28) Can foals be vaccinated?

In areas where vaccine is used, foals are vaccinated at 6 months of age after immunity from their vaccinated dams has waned.

29) Could Bluetongue vaccine give any protection to horses?

No, the immunity provided by Bluetongue vaccine is only for that particular strain of the Bluetongue virus.