

ADVICE ON
Tetanus and Equine
Influenza Vaccinations

The
British
Horse
Society



What are Vaccinations?

Prevention is ultimately better than cure and vaccinations play an important role in preventing disease in horses. Vaccinations are used to:

- reduce the risk of a disease outbreak occurring
- reduce the spread of disease in the event of an outbreak
- decrease the severity of illness in affected animals.

Vaccinations are available for a number of diseases that affect horses in the UK. Some of these diseases can be fatal. The most important vaccinations that are applicable to all horses are those for tetanus and equine influenza. Vaccination against other diseases may only be appropriate for horses that travel overseas or are used for breeding.

The principle of all vaccinations is to initiate a course of injections followed by booster doses at specific intervals, the frequency of which depends on the type of vaccine and the immunity provided. The cost of routine vaccinations for tetanus and influenza is not covered by insurance policies. However, vaccinations are relatively inexpensive given the expense involved in keeping horses and they can save lives as well as avoiding large veterinary bills.

Tetanus

Horses are the most susceptible of all domestic animals to tetanus due to the environment they live in and the frequency with which they are injured. Tetanus is a disease caused by the bacterium *Clostridium tetani* which is found in the soil. The bacterium also lives in the horse's gut which presents no risk to the horse as long as the gut remains healthy. The bacterium can be passed out of the gut and deposited within the horse's faeces.

Tetanus becomes a problem when the bacterium enters the body via a wound. Even the smallest wounds can allow the bacterium to enter the bloodstream, for example, a common site of infection is a puncture wound to the sole of the hoof. Infection can also



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occur via the intestines if a horse eats contaminated soil or faeces. Newborn foals can be infected by the bacterium via the navel (umbilicus).

Wounds offer the bacterium a perfect environment for survival as it does not require oxygen, enabling the bacteria to multiply anaerobically in the damaged tissues at a rapid rate. A poisonous neurotoxin is produced which then targets the nervous system.

Clinical Signs

The incubation period of tetanus is between 7-21 days. The nerves controlling the muscles of the body are attacked by the toxin causing the initial signs of the disease followed by a progressive deterioration. The clinical signs include:

- Stiffness in the head and limbs
- Progressively worse muscular spasms in the limbs with the horse reluctant to move
- Muscle spasms in the head and neck with the horse not able to eat or chew properly (hence tetanus may also be referred to as 'lockjaw')
- Flaring of the nostrils
- The horse exhibits a startled, wide-eyed expression due to facial muscle spasms



Pony suffering with tetanus – unable to eat, stiffness in the head and limbs and recumbent



Prolapse of the third eyelid

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- Erect ears
- The tail is held out straight
- Prolapse of the third eyelid (a membrane positioned at the inner corner starts to extend across the eye)
- The animal's reflex reactions to sudden movements, light or noise become hypersensitive
- Exacerbated spasms and convulsions will cause the horse to collapse in the later stages of the disease followed by death due to respiratory failure from paralysis of the breathing muscles.

Treatment

Once clinical signs of an infection are exhibited by the horse urgent veterinary attention is essential. Approximately 90 percent of horses that become infected with tetanus will die. If the disease is diagnosed in the early stages, treatment is aimed at destroying the bacteria to prevent any further production of the toxin. If the horse is able to eat, food should be positioned at a height which is easier for them to consume and help encourage the horse to continue eating. In advanced stages of the disease the chances of recovery will be minimal and euthanasia is often advised to prevent any further suffering.

Prevention

Tetanus can be easily prevented by establishing and maintaining an effective vaccination programme. The initial course consists of two primary injections four to six weeks apart. The first booster injection must be administered within 12 months of the second primary injection. Subsequent boosters are normally administered every two years – but ensure you check with your vet as products can vary. Tetanus vaccines often give rise to a reaction (swelling) that will disperse in a few days. If you have any concerns, contact your vet.

Vaccinated pregnant mares should be provided with a tetanus booster four to six weeks pre-foaling. This increases the antibodies available in the colostrum (first milk), which will provide the foal with a degree of maternal protection for approximately 6-12 weeks. To supplement this, newborn foals can also be given

a tetanus antitoxin soon after birth to provide temporary cover for three to four weeks. A regular vaccination programme can be initiated from approximately three to four months old. Further advice can be sought from your veterinary surgeon.

Unvaccinated horses that sustain a wound will need a tetanus antitoxin injection to provide temporary protection. The antitoxin will last three weeks, after which time the horse is no longer protected. Horse owners who do not vaccinate their horses should not rely on the antitoxin to provide protection as cuts that go unnoticed could become the site of infection. Puncture wounds may be difficult to spot yet provide a perfect environment for *Clostridium tetani* to thrive.

In addition to vaccination, good hygiene and management will help in minimising the risk of infection. Regular inspection of your horse for cuts and grazes, particularly puncture wounds to the feet, will assist in detecting potential sites where tetanus may enter. Any wounds should be cleaned immediately to remove dirt and soil and a vet called if necessary. Yards, stables and paddocks should be kept clean, safe and clear of any items that may cause injury such as barbed wire, corrugated sheets or nails.

Barbed wire, exposed nails and loose wire can increase the risk of injury and potentially lead to tetanus in unvaccinated horses



Equine Influenza

Equine Influenza, most commonly referred to as flu, is a highly contagious viral disease of the respiratory tract. The virus can be spread via the airborne route by an infected horse, via direct contact or indirectly by handlers. The incubation period for the disease is between one to five days. This is why an influenza outbreak can quickly spread in unvaccinated horses.

Clinical Signs

The clinical signs of influenza include:

- The sudden onset of a dry, harsh cough which can continue for two to three weeks and potentially persist for longer
- A rise in temperature for one to three days of up to 41°C (106°F) often goes undetected until the horse begins to cough
- A nasal discharge that is initially clear but becomes thick and purulent
- Loss of appetite
- Lethargy

The disease can debilitate a horse, leaving it susceptible to secondary infections such as bronchitis and pneumonia. Such infections are particularly worrying in young foals or elderly animals and those with a pre-existing respiratory disorder. Permanent lung damage is a risk to unvaccinated horses resulting in the potential loss of their previous athletic ability.

Treatment

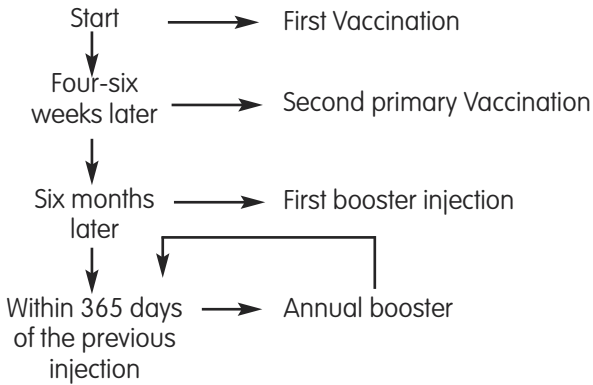
It is important to consult your vet, and in cases where flu is suspected, it is likely a swab will be taken to confirm the diagnosis. There is no direct treatment that can be used against the virus. Instead, like people, horses will require rest in order to recuperate. The environment the horse is kept in should be as dust-free as possible to ensure the respiratory system is not further compromised. It can take several weeks for the horse to recover and return to full health. It is important to seek your vet's advice before returning your horse to work.

Prevention

Vaccination remains an important practice in efforts to prevent an outbreak of flu; in an unvaccinated population there will be an almost 100 percent infection rate. Estimates suggest that less than 40 percent of the equine population in the UK are vaccinated against influenza. Flu is an adaptive virus, and has evolved to gradually

alter through a process known as antigenic drift. Your vet will be best placed to advise on the most current vaccine available.

The vaccination programme begins with a series of injections administered over the first year, which is then continued by annual boosters.



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Annual booster vaccinations are required to maintain cover against the virus. It is imperative not to allow the booster to lapse because even being one day late can result in the initial vaccination programme having to be restarted, which will be costly for the owner. In addition, there is also the option of having a combined vaccine of tetanus and equine influenza; speak to your vet for further details.

Passports

Upon the vet's arrival to vaccinate the horse ensure you have the horse's passport available so the injection can be correctly recorded.

Vaccination and Rules for Competition

If you decide to compete with your horse it is important to check with the appropriate governing body's rulebook on their vaccination requirements. If your horse does not meet their requirements it is likely that you will not be allowed to compete.

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